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- European:

Application number: JP19940033012 19940205

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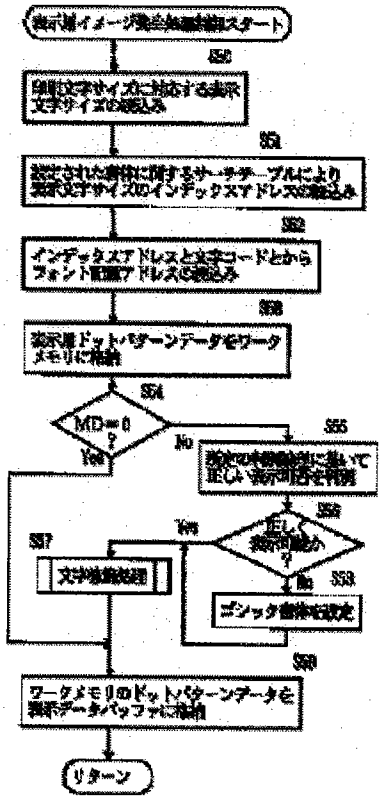
Abstract of **JP7219940**

PURPOSE:To correctly display a modified state by displaying characters by a Gothic type at the time of applying stripe modification to a Ming type style of a prescribed size or below. CONSTITUTION:Displaying dot pattern data are read out from a displaying OGROM and temporarily stored in a work memory (550 to S53), and when character modification is set up (S54:NO), the character modification is stripe modification. When display character size is '26pt' and a calligraphic style is Ming type style, a state that modified characters are not correctly displayed is judged (S55, S56:NO), the displaying style is changed to a Gothic style (S58), stripe modification is applied to the displaying dot pattern data of the changed Gothic style and the modified dot pattern data are stored in a display data buffer.



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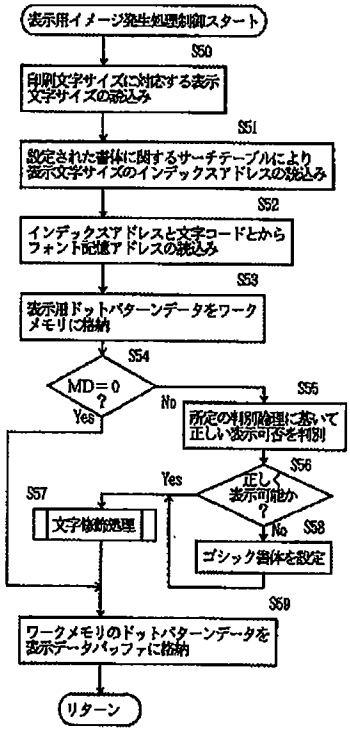
(54)【発明の名称】　文書処理装置

(57)【要約】

【目的】　所定サイズ以下の明朝体書体にストライプ修飾を施した際に、ゴシック書体にて表示することにより、修飾状態を正しく表示すること。

【構成】　表示用ドットパターンデータが表示用ＯＧＲＯＭから読み出されてワークメモリに一旦格納され（Ｓ50～Ｓ 53）、文字修飾が設定されていたならば（ S54:No）、文字修飾がストライプ修飾であり、表示文字サイズが「２６pt」であり、書体が明朝書体であるときには、文字修飾を施したキャラクタがディスプレイに正しく表示できないと判別され(S55、S56:No)、表示用書体がゴシック書体に変更され（ Ｓ 58）、この変更されたゴシック書体の表示用ドットパターンデータにストライプ修飾が施され、この表示用ドットパターンデータが表示データバッファに格納される（ Ｓ 59）。



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【特許請求の範囲】

【請求項１】　文字や記号等のキャラクタ及び種々の指令を入力する為の入力手段と、この入力手段から入力されるキャラクタのデータを記憶するデータ記憶手段と、キャラクタに関する表示用ドットパターンデータを明朝系やゴシック系の複数の書体毎に記憶したフォント記憶手段と、印刷出力するキャラクタに施す文字修飾の種類を設定する文字修飾設定手段と、データ記憶手段のデータについてフォント記憶手段から設定された書体の表示用ドットパターンデータを読出し、文字修飾設定手段で設定された種類の文字修飾を施した複数のキャラクタの表示用修飾ドットイメージデータを作成する表示用ドットイメージ作成手段と、その表示用ドットイメージ作成手段から表示用修飾ドットイメージデータを受けてディスプレイに表示する表示手段とを備えた文書処理装置において、

前記文字修飾設定手段で設定された修飾種類のデータと、印刷される文字サイズに対応づけて決定される表示文字サイズと、印刷される書体と、予め設定された所定の判別論理とに基いて、文字修飾を施したキャラクタをディスプレイ上に正しく表示可能か否かをキャラクタ毎に判別する表示可否判別手段と、

前記表示可否判別手段からの出力を受け、文字修飾を施したキャラクタを正しく表示可能でないときには、前記表示用ドットイメージ作成手段にそのキャラクタがディスプレイ上で正しく表示可能な前記設定された書体とは異なる書体の表示用ドットパターンデータを用いて文字修飾設定手段で設定された種類の文字修飾を施すように指令する書体変更指令手段と、

を備えたことを特徴とする文書処理装置。

【請求項２】　前記表示可否判別手段は、所定の判別論理の少なくとも一部として、少なくとも、明朝系の書体が設定され且つ修飾種類として複数の横線によりキャラクタを表現するストライプ修飾が設定されたときに、正しく表示可能でないと判別する論理を含むように構成されたことを特徴とする請求項１に記載の文書処理装置。

【請求項３】　前記書体変更指令手段は、前記表示可否判別手段が表示可能でないと判別したときに、前記表示用ドットイメージ作成手段にゴシック系の書体の表示用ドットパターンデータを用いて文字修飾設定手段で設定された種類の文字修飾を施すように指令するように構成されたことを特徴とする請求項２に記載の文書処理装置。

【発明の詳細な説明】

【０００１】

【産業上の利用分野】本発明は、文書処理装置に関し、特に入力したキャラクタを印刷イメージで表示する際に、文字修飾を施して正しく表示できないキャラクタに関しては、正しく表示可能な書体に変更して修飾文字を表示するようにしたものに関する。

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【０００２】

【従来の技術】従来、日本語用や英語用のワードプロセッサなどにおいては、複数行分の文書データを表示可能なディスプレイやキーボードやドット印字方式の印字ヘッドを有する印刷機構などを基本的に備え、入力した文字や記号からなる文書データは、所定の文字サイズでディスプレイにマトリックス状に表示され、入力した文書データについて印刷処理を指示した場合、印刷文字サイズや文字間ピッチ及び行間値などを含む予め設定した書式情報に基いて、その文書データが印刷用紙に印刷できるようになっている。ところで、最近のワードプロセッサには、入力した文書データのレイアウトを表示するレイアウト表示機能に加えて、その文書を印刷状態と同様の印刷イメージで表示するイメージ表示機能を備えたものが実用化されている。

【０００３】即ち、このイメージ表示機能により、文書データを印刷イメージで表示する場合、文書データの文字や記号等のキャラクタは、設定した印刷文字サイズに対応する表示文字サイズで、しかも設定した書体や文字間ピッチ及び行間値とに基いてディスプレイに表示される。ところで、この文書データ中の任意の文字や記号に、複数の横線によりキャラクタを表現するストライプ文字、白抜き文字（アウトライン文字）、ボールド文字、影付き白抜き文字などの文字修飾指示をしたときには、その文字修飾指示された文字や記号は、その文字修飾の種類に応じた修飾文字によりディスプレイにイメージ表示される。

【０００４】

【発明が解決しようとする課題】前述したように、イメージ表示機能を備えたワードプロセッサにおいては、文書データ中の、文字修飾指示された文字や記号は、設定された印刷文字サイズに対応する表示文字サイズと設定された書体の表示用ドットパターンデータに、その文字修飾の種類に応じた修飾処理が施された修飾表示用ドットイメージにより、印刷イメージで表示される場合、例えば、２６ポイント（６４ドットサイズ）の印刷文字サイズで明朝書体を設定した文字「H」は、図１５に示すように、表示文字サイズを２１ドットサイズで正しく表示されるにもかかわらず、この文字「H」に対してストライプ文字の文字修飾を設定したときには、図１６に示すように、文字「H」の表示用ドットパターンデータの横方向の１ドット列が消去されて、文字列「ＩＩ」として表示される場合が発生し、文字「H」のようなキャラクタをストライプ文字による修飾文字として正しく表示できないという問題がある。尚、図中において、符号Kは縦棒状のカーソルである。

【０００５】本発明の目的は、ストライプ文字修飾などの各種の文字修飾が設定されても、何れのキャラクタも修飾文字で正しく表示し、修飾文字に関するイメージ表示機能の充実化を図れるような文書処理装置を提供する

ことにある。

【0006】

【課題を解決するための手段】請求項1に係る文書処理装置は、図1の機能ブロック図に示すように、文字や記号等のキャラクタ及び種々の指令を入力する為の入力手段と、この入力手段から入力されるキャラクタのデータを記憶するデータ記憶手段と、キャラクタに関する表示用ドットパターンデータを明朝系やゴシック系の複数の書体毎に記憶したフォント記憶手段と、印刷出力するキャラクタに施す文字修飾の種類を設定する文字修飾設定手段と、データ記憶手段のデータについてフォント記憶手段から設定された書体の表示用ドットパターンデータを読出し、文字修飾設定手段で設定された種類の文字修飾を施した複数のキャラクタの表示用修飾ドットイメージデータを作成する表示用ドットイメージ作成手段と、その表示用ドットイメージ作成手段から表示用修飾ドットイメージデータを受けてディスプレイに表示する表示手段とを備えた文書処理装置において、前記文字修飾設定手段で設定された修飾種類のデータと、印刷される文字サイズに対応づけて決定される表示文字サイズと、印刷される書体と、予め設定された所定の判別論理とに基いて、文字修飾を施したキャラクタをディスプレイ上に正しく表示可能か否かをキャラクタ毎に判別する表示可否判別手段と、前記表示可否判別手段からの出力を受け、文字修飾を施したキャラクタを正しく表示可能でないときには、前記表示用ドットイメージ作成手段にそのキャラクタがディスプレイ上で正しく表示可能な前記設定された書体とは異なる書体の表示用ドットパターンデータを用いて文字修飾設定手段で設定された種類の文字修飾を施すように指令する書体変更指令手段と、を備えたものである。

【0007】ここで、前記表示可否判別手段は、所定の判別論理の少なくとも一部として、少なくとも、明朝系の書体が設定され且つ修飾種類として複数の横線によりキャラクタを表現するストライプ修飾が設定されたときに、正しく表示可能でないと判別する論理を含むように構成してもよい（請求項1に従属の請求項2）。更に、前記書体変更指令手段は、前記表示可否判別手段が表示可能でないと判別したときに、前記表示用ドットイメージ作成手段にゴシック系の書体の表示用ドットパターンデータを用いて文字修飾設定手段で設定された種類の文字修飾を施すように指令するように構成してもよい（請求項2に従属の請求項3）。

【0008】

【作用】請求項1に係る文書処理装置においては、オペレータにより、文字修飾設定手段を介して、印刷出力するキャラクタに施す文字修飾の種類が設定されたときには、表示用ドットイメージ作成手段は、データ記憶手段に記憶されたキャラクタのデータについて、フォント記憶手段からキャラクタに関する設定された書体の表示用ドットパターンデータを順次読出し、文字修飾設定手段で設定された種類の文字修飾を施した複数のキャラクタの表示用修飾ドットイメージデータを作成する。

【0009】ところで、表示可否判別手段は、文字修飾設定手段で設定された修飾種類のデータと、印刷される文字サイズに対応づけて決定される表示文字サイズと、印刷される書体と、予め設定された所定の判別論理とに基いて、文字修飾を施したキャラクタをディスプレイ上に正しく表示可能か否かをキャラクタ毎に判別するので、書体変更指令手段は、表示可否判別手段からの出力を受け、文字修飾を施したキャラクタを正しく表示可能でないときには、表示用ドットイメージ作成手段に、そのキャラクタがディスプレイ上で正しく表示可能な前記設定された書体とは異なる書体の表示用ドットパターンデータを用いて文字修飾設定手段で設定された種類の文字修飾を施すように指令する。その結果、表示手段は、表示用ドットイメージ作成手段から表示用修飾ドットイメージデータを受けてディスプレイに表示する。

【0010】このように、キャラクタの設定された書体の表示用ドットパターンデータについて、設定された文字修飾を施した表示用修飾ドットパターンデータを作成するときに、表示文字サイズと書体と予め設定された所定の判別論理とに基いて、文字修飾を施してディスプレイ上に正しく表示可能なキャラクタについては、キャラクタの設定された書体の表示用ドットパターンデータに文字修飾を施した表示用修飾ドットパターンデータを作成する一方、正しく表示可能でないキャラクタについては、正しく表示可能な設定された書体とは異なる書体の表示用ドットパターンデータにその文字修飾を施した表示用修飾ドットパターンデータを作成するので、修飾文字を印刷イメージで表示する際に、各種の文字修飾が設定されても、何れのキャラクタも設定された文字修飾を施して正しく表示でき、修飾文字に関するイメージ表示機能の充実化を図ることができる。

【0011】ここで、請求項2の文書処理装置においては、前記表示可否判別手段は、所定の判別論理の少なくとも一部として、少なくとも、明朝系の書体が設定され且つ修飾種類として複数の横線によりキャラクタを表現するストライプ修飾が設定されたときに、正しく表示可能でないと判別する論理を含むので、明朝系の書体及びストライプ修飾が設定されて正しく表示できないキャラクタも、明朝系の書体と異なる書体によりストライプ修飾文字で正しく表示でき、同様に修飾文字に関するイメージ表示機能の充実化を図ることができる。

【0012】更に、請求項3の文書処理装置においては、前記書体変更指令手段は、表示可否判別手段が表示可能でないと判別したときに、表示用ドットイメージ作成手段にゴシック系の書体の表示用ドットパターンデータを用いて文字修飾設定手段で設定された種類の文字修飾を施すように指令するので、明朝系の書体及びストラ

イプ修飾が設定されて正しく表示できないキャラクタも、ゴシック系の書体のストライプ修飾文字で正しく表示でき、同様に修飾文字に関するイメージ表示機能の充実化を図ることができる。

【００１３】

【実施例】以下、本発明の実施例について図面に基いて説明する。本実施例は、アルファベット文字や記号などの多数のキャラクタを印刷テープに印刷可能なテープ印刷装置に本発明を適用した場合のものである。図２に示すように、テープ印刷装置１の本体フレーム２の前部にはキーボード３が配設され、キーボード３の後方で本体フレーム２内には印刷機構ＰＭが配設され、またキーボード３の直ぐ後側には、入力した文字や記号を印刷イメージで表示可能な液晶ディスプレイ２２が設けられている。このディスプレイ２２には、縦方向に３２ドット、横方向に１２１ドットで構成される表示画面を有している。ここで、符号４は、印刷機構ＰＭに装着するテープカセットＣＳを着脱するときに、カバーフレーム６を開放する為のリリースボタンである。

【００１４】キーボード（入力手段に相当する）３には、アルファベットや数字や記号を入力する為の文字キー、スペースキー、リターンキー、カーソルＫを上下左右方向に移動させる為のカーソル移動キー、文字修飾の種類や印刷文字サイズなどを含む書式情報を変更設定する書式設定キー、各種の設定処理を終了する実行キー、印刷を指令する印刷キー、電源をＯＮ・ＯＦＦする為の電源キーなどが設けられている。

【００１５】次に、印刷機構ＰＭについて、図３に基いて簡単に説明すると、印刷機構ＰＭに着脱自在に矩形状のテープカセットＣＳが装着されており、このテープカセットＣＳには、ラミネートフィルムテープ７が巻装されたテープスプール８と、印字リボン９が巻装されたリボン供給スプール１０と、この印字リボン９を巻取る巻取りスプール１１と、ラミネートフィルムテープ７と同一幅を有する両面テープ１２が剥離紙を外側にして巻装された供給スプール１３と、これらラミネートフィルムテープ７と両面テープ１２とを接合させる接合ローラ１４とが回転自在に設けられている。

【００１６】前記ラミネートフィルムテープ７と印字リボン９とが重なる位置には、サーマルヘッド１５が立設され、これらラミネートフィルムテープ７と印字リボン９とをサーマルヘッド１５に押圧するプラテンローラ１６と、ラミネートフィルムテープ７と両面テープ１２とを接合ローラ１４に押圧して印刷テープ１９を作成する送りローラ１７とは、本体フレーム２に回動自在に枢着された支持体１８に回転可能に枢支されている。このサーマルヘッド１５には、１２８個の発熱素子からなる発熱素子群が上下方向に列設されている。

【００１７】従って、テープ送りモータ４５（図４参照）の所定回転方向への駆動により、接合ローラ１４と巻取りスプール１１とが所定回転方向に夫々同期して駆動されながら、サーマルヘッド１５の発熱素子群に通電されたとき、ラミネートフィルムテープ７上には複数のドット列により文字やバーコードが印字され、しかもラミネートフィルムテープ７は両面テープ１２を接合した状態で印刷テープ１９としてテープ送り方向Ａにテープ送りされ、図２・図３に示すように、本体フレーム２の外部に繰出される。尚、印刷機構ＰＭの詳細については、特開平２－１０６５５５号公報を参照。

【００１８】次に、この印刷テープ１９を自動的に切断する切断装置３０について、図３に基いて簡単に説明すると、前記テープカセットＣＳの左側に対応する本体フレーム２の直ぐ内側には、板状の補助フレーム３１が立設され、この補助フレーム３１に固定刃３２が上向きに固着されている。補助フレーム３１に固着された左右方向向きの枢支軸３３には、前後方向に延びる操作レバー３４の前端近傍部が回動可能に枢支され、その操作レバー３４の枢支軸３３より前側に対応する部位において、可動刃３５が前記固定刃３２と対向して取付けられている。また、操作レバー３４の後端部は、切断用モータ４６（図４参照）に連結された揺動駆動機構（図示略）により上下揺動可能に構成され、常には、可動刃３５が固定刃３２から離間した状態で保持されている。

【００１９】そして、サーマルヘッド１５により印刷された印刷テープ１９は、テープカセットＣＳから固定刃３２と可動刃３５との間を通って本体フレーム２外に延びているので、切断信号により駆動された切断用モータ４６により、揺動駆動機構を介して操作レバー３４の後端部が上下揺動され、可動刃３５が固定刃３２に接近して、これら両刃３２・３５で印刷テープ１９が切断される。

【００２０】ところで、前記テープカセットＣＳから繰出される印刷テープ１９として、テープ幅を６㎜、９㎜、１２㎜、１８㎜、２４㎜とする５種類が準備されており、これらテープカセットＣＳの底壁部には、これら５種類のテープ幅の何れかを検知する為に、４つの突出爪の有無を組合せた突出片２０が設けられている。そして、このテープカセットＣＳの下側を支持する本体フレーム２には、この突出片２０の突出爪の組合せからテープ幅を検知するカセットセンサ４２（図４参照）が取付けられている。即ち、このカセットセンサ４２は、突出片２０を構成する突出爪の組合せにより、例えば、テープ幅が２４㎜のときには「０１００」のカセット信号を出力し、またテープ幅が１２㎜のときには「１１００」のカセット信号を出力するとともに、テープカセットＣＳが装着されていないときには、「００００」のカカセット信号を出力する。

【００２１】次に、テープ印刷装置１の制御系は、図４のブロック図に示すように構成されている。制御装置Ｃの入出力インターフェース５０には、キーボード３と、

カセットセンサ４２と、液晶ディスプレイ（ＬＣＤ）２２に表示データを出力する為のビデオＲＡＭ２４を有するディスプレイコントローラ（ＬＣＤＣ）２３と、警告用ブザー４３の為の駆動回路４４と、サーマルヘッド１５を駆動する為の駆動回路４７と、テープ送りモータ４５を駆動する為の駆動回路４８と、切断用モータ４６を駆動する為の駆動回路４９とが夫々接続されている。

【００２２】制御装置Ｃは、ＣＰＵ５２と、このＣＰＵ５２にデータバスなどのバス５１を介して接続された入出力インターフェース５０、表示用ＣＧ（キャラクタジェネレータ）ＲＯＭ５３、印刷用ＣＧ（キャラクタジェネレータ）ＲＯＭ５４、ＲＯＭ５５及びＲＡＭ６０とから構成されている。表示用ＣＧＲＯＭ（フォント記憶手段に相当する）５３には、アルファベット文字や記号などの多数のキャラクタの各々に関して、表示用ドットパターンデータが、各書体（ゴシック系書体、明朝系書体など）毎に６種類（７、１０、１６、２１、３２、３２ＢＩＧ ドット）の表示文字サイズ分、コードデータに対応させて格納されている。ここで、３２ＢＩＧ ドットの表示文字サイズは、アルファベットの大文字のようにベースラインの下側に食み出さない文字列のときに、３２ドット文字サイズより大きく表示できる表示文字サイズである。

【００２３】印刷用ＣＧＲＯＭ５４には、アルファベット文字や記号などの多数のキャラクタの各々に関して、印刷用ドットパターンデータが、各書体毎に７種類（６ポイント：１６ドット、１０ポイント：２４ドット、１３ポイント：３２ドット、１９ポイント：４８ドット、２６ポイント：６４ドット、３８ポイント：９６ドット、４４ポイント：９６ＢＩＧ ドット）の印刷文字サイズ分、コードデータに対応させて格納されている。ここで、９６ＢＩＧ ドットの印刷文字サイズは、アルファベットの大文字のようにベースラインの下側に食み出さない文字列のときに、９６ドット文字サイズより大きく印刷できる文字サイズである。

【００２４】ＲＯＭ５５には、キーボード３から入力された文字や数字や記号などのキャラクタのコードデータに対応させてディスプレイコントローラ２３を制御する表示駆動制御プログラム、文字や記号にアンダーライン、影付き文字、ボールド、イタリック、複数の横線によりキャラクタを表現するストライプ文字、アウトライン（白抜き文字）、影文字などの各種の文字修飾を施す文字修飾制御プログラム、印刷データバッファ６６のデータを順次読出してサーマルヘッド１５やテープ送りモータ４５を駆動する印刷駆動制御プログラム、本願特有の後述のテープ印刷制御の制御プログラムなどが格納されている。このＲＯＭ５５には、図５に示すように、印刷文字サイズＳＺとそのサイズで印刷するときの表示文字サイズとを対応させた文字サイズ変換テーブルＴＢＩが格納されている。

【００２５】また、ＲＯＭ５５には、図示しないが、７種類の印刷文字サイズと各印刷文字サイズに関する一連の文字や記号のドットパターンデータが格納されている印刷用ＣＧＲＯＭ５４の先頭アドレス（インデックスアドレス）とを対応させた書体毎の印刷文字サーチテーブルと、このインデックスアドレスと各文字や記号の印刷用ＣＧＲＯＭ５４における格納先頭アドレスとを対応させた印刷文字インデックステーブルとが格納されている。更に、ＲＯＭ５５には、図示しないが、６種類の表示文字サイズと各表示文字サイズに関する一連の文字や記号のドットパターンデータが格納されている表示用ＣＧＲＯＭ５３の先頭アドレス（インデックスアドレス）とを対応させた表示文字サーチテーブルと、このインデックスアドレスと各文字や記号の表示用ＣＧＲＯＭ５３における格納先頭アドレスとを対応させた表示文字インデックステーブルとが格納されている。

【００２６】ＲＡＭ６０のテキストメモリ（データ記憶手段に相当する）６１には、キーボード３から入力された文書データが格納される。パラメータメモリ６２には、テキストメモリ６１の先頭アドレスを指示する先頭アドレスポインタのポインタ値ＳＰと、その末尾アドレスを指示する末尾アドレスポインタのポインタ値ＥＰと、データカウント値ＤＣ、文字修飾番号のデータＭＤ、印刷文字サイズＳＺのデータが格納される。表示文字サイズメモリ６３には、求められた表示文字サイズのデータが格納される。配置位置情報メモリ６４には、表示する各文字や記号の表示データバッファ６５における表示位置情報が格納される。表示データバッファ６５には、入力された複数の文字や記号の表示用ドットパターンデータが合成して格納され、また印刷データバッファ６６には、印刷に供する複数の文字や記号の印刷用ドットパターンデータが合成して印刷用ドットイメージデータとして格納される。その他にワークメモリ６７が設けられている。

【００２７】次に、テープ印刷装置１の制御装置Ｃで行なわれるテープ印刷制御のルーチンについて、図６～図９のフローチャートに基いて説明する。尚、図中符号Ｓｉ（ｉ＝１０、１１、１２・・・）は各ステップである。キーボード３上の電源キーにより電源が投入されるとこの制御が開始され、先ずＲＡＭ６０の各メモリ６１～６７をクリアするとともに、印刷機構ＰＭを初期化する初期設定処理が実行される（Ｓ10）。次に、テキストメモリ６１の先頭の２バイトに、標準の書式情報データが格納され、ディスプレイ２２には、入力文字を印刷状態と同様の印刷イメージで表示する印刷イメージ表示画面が表示されるとともに、この表示画面には、標準書式情報の印刷文字サイズに対応する表示文字サイズの大きさを有する縦棒状のカーソルＫが表示される（Ｓ11）。例えば、図１０に示すように、テキストメモリ６１の先頭の２バイトには、文字修飾番号のデータＭＤとして

「０（修飾なし）」、書体番号データＦＮとして「明朝書体」、印刷文字サイズＳＺとして「４４ｐｔ（ポイント）」が夫々標準書式情報として格納される。

【００２８】次に、テキストメモリ６１に格納された文字や記号を印刷イメージで表示する印刷イメージ表示処理が実行される（Ｓ12）。この印刷イメージ表示処理については説明の都合上、後述することにする。そして、書式設定キーが操作されたときには（Ｓ13・Ｓ14：Yes）、書式情報設定処理制御が実行され（Ｓ17）、Ｓ12を経てＳ13に移行する。この書式情報設定処理制御においては、文字修飾の種類名や印刷文字サイズや書体名などの書式設定内容を一括して設定可能な書式設定画面がディスプレイ２２に表示されるので、カーソル移動キーを操作して、設定項目「文字修飾の種類名」や「印刷文字サイズ名」や「書体名」にカーソルを移動し、所望の設定内容に対応する数字キーを入力した後実行キーを操作すると、数字で設定された文字修飾番号ＭＤや印刷文字サイズＳＺのデータを含む書式情報がテキストメモリ６１に変更書式情報として格納される。

【００２９】ここで、文字修飾の種類及びその設定番号として、０：修飾なし、１：アンダーライン、２：影付き文字、３：ボールド、４：イタリック、５：ストライプ、６：アウトライン（白抜き文字）、７：影文字・・・が設定可能になっている。また、印刷文字サイズ及びその設定番号として、１：６ｐｔ、２：１０ｐｔ、３：１３ｐｔ、４：１９ｐｔ、５：２６ｐｔ、６：３８ｐｔ、７：４４ｐｔが設定可能になっている。例えば、図１０に示すように、文書データを入力するまでに、文字修飾番号ＭＤだけが、「５（ストライプ）」に変更されたときには、この変更された設定情報を含む変更書式情報が、テキストメモリ６１において、前記標準書式情報に続けて２バイトで格納される。

【００３０】次に、アルファベット文字キーや記号キーや数字キーなどの印刷可能キーが操作されたときには（Ｓ13：Yes、Ｓ14：No、Ｓ15：Yes）、操作された印刷可能キーのコードデータを文書データとしてテキストメモリ６１に格納する文書データ格納処理が実行され（Ｓ18）、印刷イメージ表示処理制御が実行される（Ｓ12）。次に、この印刷イメージ表示処理制御について、図７に基いて説明する。このとき、テキストメモリ６１には、図１０に示すように、標準書式情報、変更書式情報、文字列「ＨＨＨ」のコードが順次格納されているものとする。

【００３１】この制御が開始されると、先ずテキストメモリ６１内のデータが先頭アドレスから順次検索され、書式情報や文字コードや改行コードに基いて、表示する文字や記号の各々に関して、表示用ドットパターンデータを表示データバッファ６５に展開する為の配置位置情報が求められ、その配置位置情報が配置位置情報メモリ６４に格納される（Ｓ30）。尚、配置位置情報は、例えば、書式情報や文字コードや改行コードと印刷用ドットパターンデータとから印刷時の文字配置位置を求め、その座標値を１／３倍して表示用の配置位置とする等して求められる。

【００３２】次に、パラメータメモリ６２における印刷処理に関するパラメータ情報を初期化する初期化処理が実行される（Ｓ31）。即ち、パラメータメモリ６２において、先頭アドレスポインタ値ＳＰにはテキストメモリ６１の先頭アドレスがセット（図１０参照）され、末尾アドレスポインタ値ＥＰにはテキストメモリ６１の末尾アドレスの次のアドレス（末尾アドレス＋２）がセット（図１０参照）され、データカウント値ＤＣとして初期値「０」がセットされ、文字修飾番号ＭＤとして「０（修飾なし）」がセットされ、更に印刷文字サイズＳＺとして「４４pt」がセットされる。

【００３３】次に、書式情報のデータや文字コードは夫々２バイト構成なので、先頭アドレスに、データカウント値ＤＣを２倍したアドレス分を加算した検索アドレスのデータが読込まれ（Ｓ32）、そのデータが書式情報のデータのときには（Ｓ33：Yes）、書式情報変更処理制御（図８参照）が実行される（Ｓ35）。この制御が開始されると、先ずその書式情報に格納されている印刷文字サイズデータYSZ が読込まれ（Ｓ42）、パラメータメモリ６２内の印刷文字サイズＳＺとその読込み印刷文字サイズYSZ とが異なるときには（Ｓ43：No）、パラメータメモリ６２の印刷文字サイズＳＺとして、その読込み印刷文字サイズYSZ に変更される（Ｓ44）。尚、印刷文字サイズＳＺとその読込み印刷文字サイズYSZ とが等しいときには（Ｓ43：Yes）、Ｓ45に移行する。

【００３４】次に、その書式情報に格納されている文字修飾番号データYMD が読込まれ（Ｓ45）、パラメータメモリ６２内の文字修飾番号ＭＤとその読込み文字修飾番号データYMD とが異なるときには（Ｓ46：No）、パラメータメモリ６２の文字修飾番号ＭＤとして、その読込み文字修飾番号YMD に変更される（Ｓ47）。尚、文字修飾番号ＭＤとその読込み文字修飾番号YMD とが等しいときには（Ｓ46：Yes）、Ｓ48に移行する。次に、書体などのその他の書式情報についても同様に検索され、変更されたときにはその変更された書式のデータが更新して格納され（Ｓ48）、この制御を終了して、印刷イメージ表示処理制御のＳ37にリターンする。

【００３５】次に、印刷イメージ表示処理制御において、データカウント値ＤＣが１つインクリメントされ（Ｓ37）、先頭アドレスポインタ値（先頭アドレス）ＳＰに、データカウント値ＤＣを２倍したアドレス分を加算した検索アドレスと末尾アドレスポインタ値ＥＰで指示するアドレスとが合致せず、テキストメモリ６１に表示に供する文字が存在するときには（Ｓ38：No）、Ｓ32以降が繰り返して実行される。そして、検索アドレスのデータが印刷可能な文字コードのときには（Ｓ33：No、

Ｓ34：Yes ）、表示用イメージ発生処理制御（図９参照）が実行される（Ｓ36）。

【００３６】この制御が開始されると、先ずパラメータメモリ６２内のデータと文字サイズ変換テーブルＴＢ１のデータとに基いて、印刷文字サイズＳＺに対応する表示文字サイズが読込まれ（Ｓ50）、この表示文字サイズと設定された書体に関する表示文字サーチテーブルとに基いて、その表示文字サイズの一連の文字や記号のドットパターンデータが格納されている表示用ＣＧＲＯＭ５３のインデックスアドレスが読込まれ（Ｓ51）、更にそのインデックスアドレスと表示文字インデックステーブルと文字コードとに基いて、表示用ＣＧＲＯＭ５３における設定された書体に関するその文字コードの格納先頭アドレス、つまりフォント記憶アドレスが読込まれ（Ｓ52）、そのフォント記憶アドレスに格納されている表示用ドットパターンデータが表示用ＣＧＲＯＭ５３から読出されてワークメモリ６７に一旦格納される（Ｓ53）。

【００３７】次に、文字修飾番号ＭＤが「０」でなく、文字修飾処理を実行するときには（Ｓ54：No）、文字修飾の種類と表示文字サイズと書体と所定の判別論理とに基いて、文字修飾処理を施したキャラクタがディスプレイ２２上に正しく表示可能か否かが判別され（Ｓ55）、その判別可否の結果、文字修飾処理を施したキャラクタが正しく表示可能なときには（Ｓ56：Yes ）、そのキャラクタについて、ワークメモリ６７に格納されている、設定された書体の表示用ドットパターンデータを用いて文字修飾番号ＭＤで指示された修飾種類の文字修飾処理が実行され、この文字修飾処理された表示用修飾ドットパターンデータがワークメモリ６７に更新して格納され（Ｓ57）、Ｓ59に移行する。また、文字修飾番号ＭＤが「０」で、文字修飾処理を実行しないときには（Ｓ54：Yes ）、Ｓ59に移行する。

【００３８】しかし、判別可否の結果、文字修飾処理を施したキャラクタが正しく表示可能でないとき、つまりそのキャラクタが変形して表示されるときには（Ｓ56：No）、表示用の書体としてゴシック書体に変更して設定され（Ｓ58）、その変更されたゴシック書体の表示用ドットパターンデータを用いて文字修飾番号ＭＤで指示された修飾種類の文字修飾処理が実行され、この文字修飾処理された表示用修飾ドットパターンデータがワークメモリ６７に更新して格納され（Ｓ57）、Ｓ59に移行する。そして、そのワークメモリ６７に格納されている表示用ドットパターンデータが、配置位置情報メモリ６４に格納されているその文字の配置位置データで指示される表示データバッファ６５の格納位置に表示用ドットイメージデータとして格納され（Ｓ59）、この制御を終了して、印刷イメージ表示処理制御のＳ37にリターンする。

【００３９】ここで、前述した所定の判別論理について説明すると、文字修飾種類が「ストライプ修飾」であり、印刷文字サイズＳＺが「２６pt以下」であり、更に書体が「明朝書体」のときには、表示文字サイズが２１ドットサイズ以下に小さくなり、キャラクタの明朝書体に関するその印刷文字サイズＳＺの表示用ドットパターンデータにおいて、ストライプ修飾により横方向の１ドットラインデータが消去される可能性があることから、キャラクタが変形して正しく表示可能でないと判別するように論理付けられている。

【００４０】次に、印刷イメージ表示処理制御において、Ｓ37を実行後、先頭アドレスに、データカウント値ＤＣを２倍したアドレス分を加算した検索アドレスと末尾アドレスポインタ値ＥＰで指示するアドレスとが合致したときには（Ｓ38：Yes ）、表示データバッファ６５に展開して格納された表示用ドットイメージデータがビデオＲＡＭ２４に出力されてディスプレイ２２に表示され（Ｓ39）、この制御を終了して、テープ印刷制御のＳ13にリターンする。

【００４１】例えば、テキストメモリ６１に、図１０に示す書式情報や文字コード列「ＨＨＨ」が格納されている場合には、文字修飾の種類が「ストライプ」に設定され、印刷文字サイズＳＺとして「４４pt」が設定され、更に書体が「明朝書体」に設定されているので、前述した判別論理により、これら文字列「ＨＨＨ」に関して正しく表示可能なので、図１１に示すように、これら文字列「ＨＨＨ」については、明朝書体の４４ポイントの文字サイズで且つ「ストライプ」の文字修飾を施してディスプレイ２２に正しく表示される。

【００４２】一方、例えば、テキストメモリ６１に、図１２に示す書式情報や文字コード列「ＨＨＨ」が格納されている場合には、文字修飾の種類が「ストライプ」に設定され、印刷文字サイズＳＺとして「２６pt」が設定され、更に書体が「明朝書体」に設定されているので、前述した判別論理により、これら文字列「ＨＨＨ」に関して正しく表示可能でないことから、書体として「ゴシック書体」に変更して設定され、図１３に示すように、これら文字列「ＨＨＨ」については、ゴシック書体の２６ポイントの文字サイズで且つ「ストライプ」の文字修飾を施してディスプレイ２２に正しく表示可能になる。

【００４３】次に、テープ印刷制御において、印刷キーが操作されたときには（Ｓ13：Yes、Ｓ14～Ｓ15：No、Ｓ16：Yes ）、印刷処理制御が実行され（Ｓ19）、Ｓ12に戻る。この印刷処理制御は通常の印刷処理と同様なので簡単に説明すると、テキストメモリ６１から書式情報や文字コードが順次読出され、印刷文字サーチテーブルと印刷文字インデックステーブルとに基いて、その文字コードの印刷用ＣＧＲＯＭ５４における印刷用ドットパターンデータが読出されて印刷データバッファ６６に展開して合成格納され、この印刷データバッファ６６の印刷用ドットイメージデータが印刷機構ＰＭに出力され、印刷テープ１９に印刷される。

【００４４】このとき、テキストメモリ６１に、図１２に示す書式情報や文字コード列「ＨＨＨ」が格納されている場合には、これら文字コード列「ＨＨＨ」は、図１４に示すように、設定された明朝書体の２６ptの印刷文字サイズで、しかもストライプの文字修飾が施されて印刷テープ１９に正しく印刷される。ところで、書式設定キー、印刷可能キー及び印刷キー以外のキーが操作されたときには（Ｓ13：Yes 、Ｓ14～Ｓ16：No）、その操作されたキーに対応する処理が実行され（Ｓ20）、Ｓ12に戻る。

【００４５】以上説明したように、キャラクタの設定された書体の表示用ドットパターンデータについて、設定された文字修飾を施した表示用修飾ドットパターンデータを作成するときに、表示文字サイズと書体と予め設定された所定の判別論理とに基いて、文字修飾を施してディスプレイ上に正しく表示可能なキャラクタについては、キャラクタの設定された書体の表示用ドットパターンデータに文字修飾を施した表示用修飾ドットパターンデータを作成する一方、明朝系の書体と２６pt以下の印刷文字サイズが設定され且つストライプ修飾が設定されて、正しく表示可能でないキャラクタについては、正しく表示可能なゴシック書体の表示用ドットパターンデータにそのストライプ修飾を施した表示用修飾ドットイメージデータを作成するので、修飾文字を印刷イメージで表示する際に、明朝系の書体及びストライプ修飾が設定されて正しく表示できないキャラクタも、ゴシック系の書体のストライプ修飾で正しく表示でき、修飾文字に関するイメージ表示機能の充実化を図ることができる。

【００４６】ここで、特許請求の範囲に記載した各手段と、上記実施例中の構成との対応関係について説明すると、表示可否判別手段に相当するものは、表示用イメージ発生処理制御の特にＳ54～Ｓ55であり、書体変更指令手段に相当するものは、表示用イメージ発生処理制御の特にＳ56：Yes 、Ｓ58である。

【００４７】尚、前述した修飾文字の表示可否を判別する判別論理は、一例を示したものに過ぎず、ディスプレイ２２の表示画面の大きさや表示用ドットパターンデータの構成ドット数などに基いて判別基準を適宜変更することが可能である。尚、明朝書体で２６ポイント以下の印刷文字サイズでストライプ修飾により、正しく表示可能でないと判別されたキャラクタについて、ゴシック系の明朝書体に変更するように構成することも可能である。尚、印刷文字サイズは、印刷テープ１９のテープ幅と入力された文書の行数とから演算で求めるようにしてもよい。尚、本発明の技術的思想の範囲内において、前記実施例の制御に関し、既存の技術や当業者に自明の技術に基いて種々の変更を加えることもあり得る。尚、キーボードやディスプレイや印刷装置を備え、文字修飾処理可能なワードプロセッサなどの種々の文書処理装置に本発明を適用し得ることは勿論である。

【００４８】

【発明の効果】請求項１に係る文書処理装置によれば、入力手段、データ記憶手段、フォント記憶手段、文字修飾設定手段、表示用ドットイメージ作成手段、表示手段を備えた文書処理装置に、表示可否判別手段と、書体変更指令手段とを設け、キャラクタの設定された書体の表示用ドットパターンデータについて、設定された文字修飾を施した表示用修飾ドットパターンデータを作成するときに、表示文字サイズと書体と予め設定された所定の判別論理とに基いて、文字修飾を施してディスプレイ上に正しく表示可能なキャラクタについては、キャラクタの設定された書体の表示用ドットパターンデータに文字修飾を施した表示用修飾ドットパターンデータを作成する一方、正しく表示可能でないキャラクタについては、正しく表示可能な設定された書体とは異なる書体の表示用ドットパターンデータにその文字修飾を施した表示用修飾ドットイメージデータを作成するので、修飾文字を印刷イメージで表示する際に、各種の文字修飾が設定されても、何れのキャラクタも設定された文字修飾を施して正しく表示でき、修飾文字に関するイメージ表示機能の充実化を図ることができる。

【００４９】請求項２に係る文書処理装置によれば、前記表示可否判別手段は、所定の判別論理の少なくとも一部として、少なくとも、明朝系の書体が設定され且つ修飾種類として複数の横線によりキャラクタを表現するストライプ修飾が設定されたときに、正しく表示可能でないと判別する論理を含むので、明朝系の書体及びストライプ修飾が設定されて正しく表示できないキャラクタも、明朝系の書体と異なる書体によりストライプ修飾文字で正しく表示でき、同様に修飾文字に関するイメージ表示機能の充実化を図ることができる。

【００５０】請求項３に係る文書処理装置によれば、前記書体変更指令手段は、表示可否判別手段が表示可能でないと判別したときに、表示用ドットイメージ作成手段にゴシック系の書体の表示用ドットパターンデータを用いて文字修飾設定手段で設定された種類の文字修飾を施すように指令するので、明朝系の書体及びストライプ修飾が設定されて正しく表示できないキャラクタも、ゴシック系の書体のストライプ修飾文字で正しく表示でき、同様に修飾文字に関するイメージ表示機能の充実化を図ることができる。

【図面の簡単な説明】

【図１】請求項１の構成を示す機能ブロック図である。

【図２】テープ印刷装置の斜視図である。

【図３】テープカセットを装着した印刷機構の概略平面図である。

【図４】テープ印刷装置の制御系のブロック図である。

【図５】文字サイズ変換テーブルの設定内容を説明する図表である。

【図６】テープ印刷制御のルーチンの概略フローチャー

トである。

【図７】印刷イメージ表示処理制御のルーチンの概略フローチャートである。

【図８】書式情報変更処理制御のルーチンの概略フローチャートである。

【図９】表示用イメージ発生処理制御のルーチンの概略フローチャートである。

【図１０】書式情報や文字列コードが格納されたテキストメモリの説明図である。

【図１１】明朝書体でストライプ修飾された修飾文字列の表示例を示す図である。

【図１２】変更された書式情報や文字列コードが格納された図１０相当図である。

【図１３】ゴシック書体でストライプ修飾された修飾文字列の表示例を示す図である。

【図１４】明朝書体でストライプ修飾された修飾文字列＊の印刷例を示す図である。

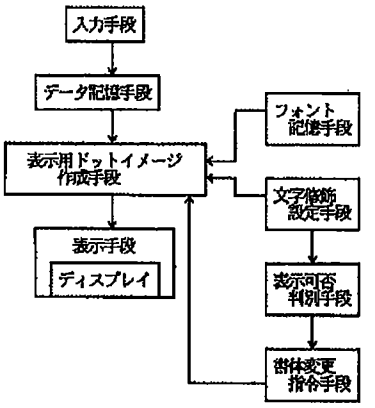
【図１５】従来技術に係り、明朝文字「H」の表示例を示す図である。

【図１６】従来技術に係り、ストライプ修飾した明朝文字「H」を表示した図である。

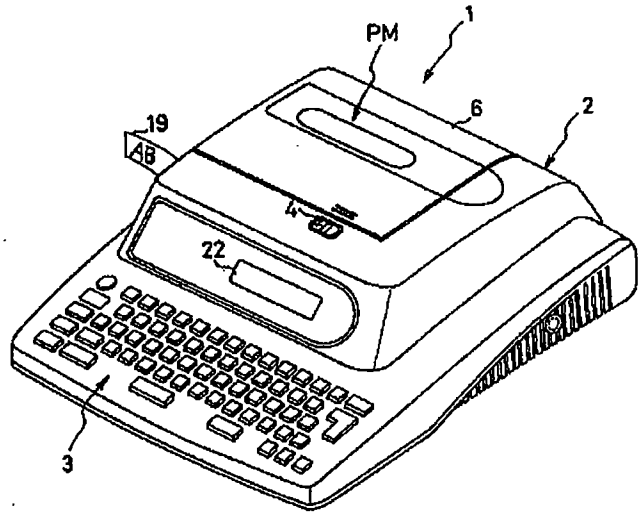
【符号の説明】

１　テープ印刷装置
３　キーボード
２２　液晶ディスプレイ
５２　ＣＰＵ
５３　表示用ＣＧＲＯＭ
５５　ＲＯＭ
６０　ＲＡＭ
６１　テキストメモリ
６５　表示データバッファ
Ｃ　制御装置

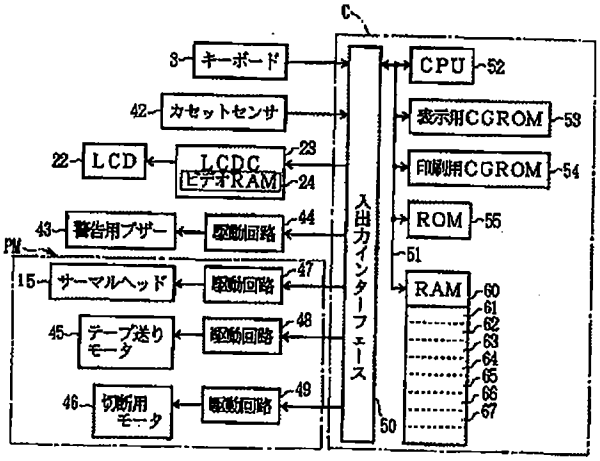
【図１】



【図２】



【図４】

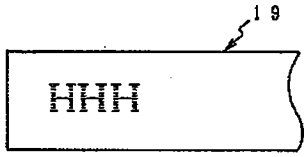


【図５】

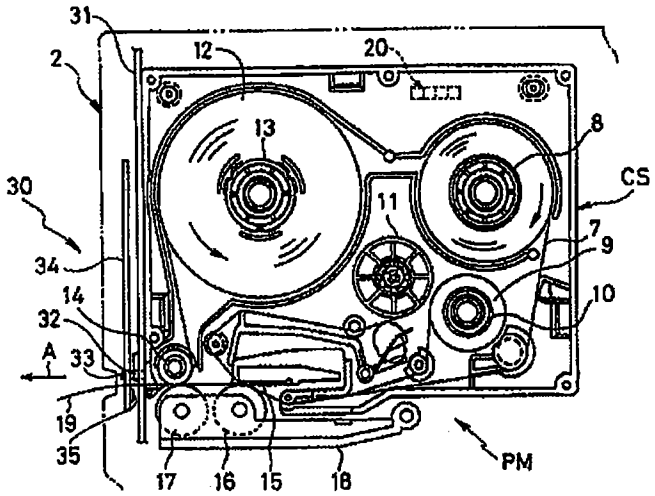
TB1

印刷文字サイズ (pt)	表示文字サイズ (ドット)
6	7
10	7
13	10
19	16
26	21
38	32
44 (BIG)	32 (BIG)

【図１４】



【図３】



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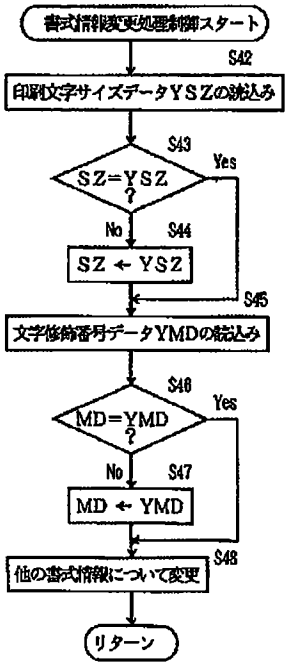

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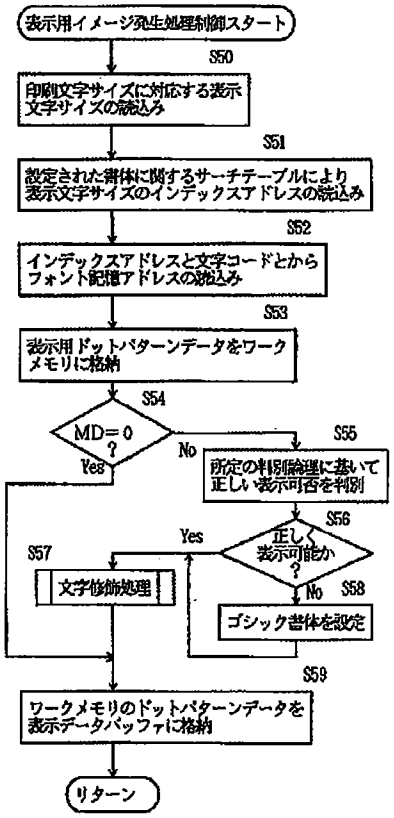
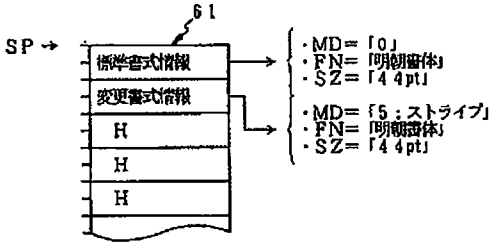
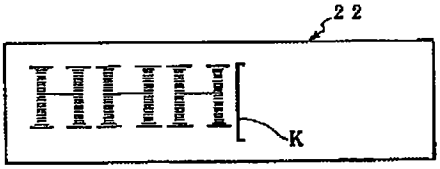


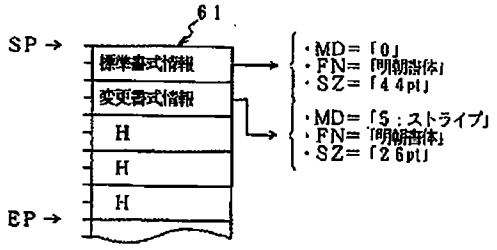
【図１０】



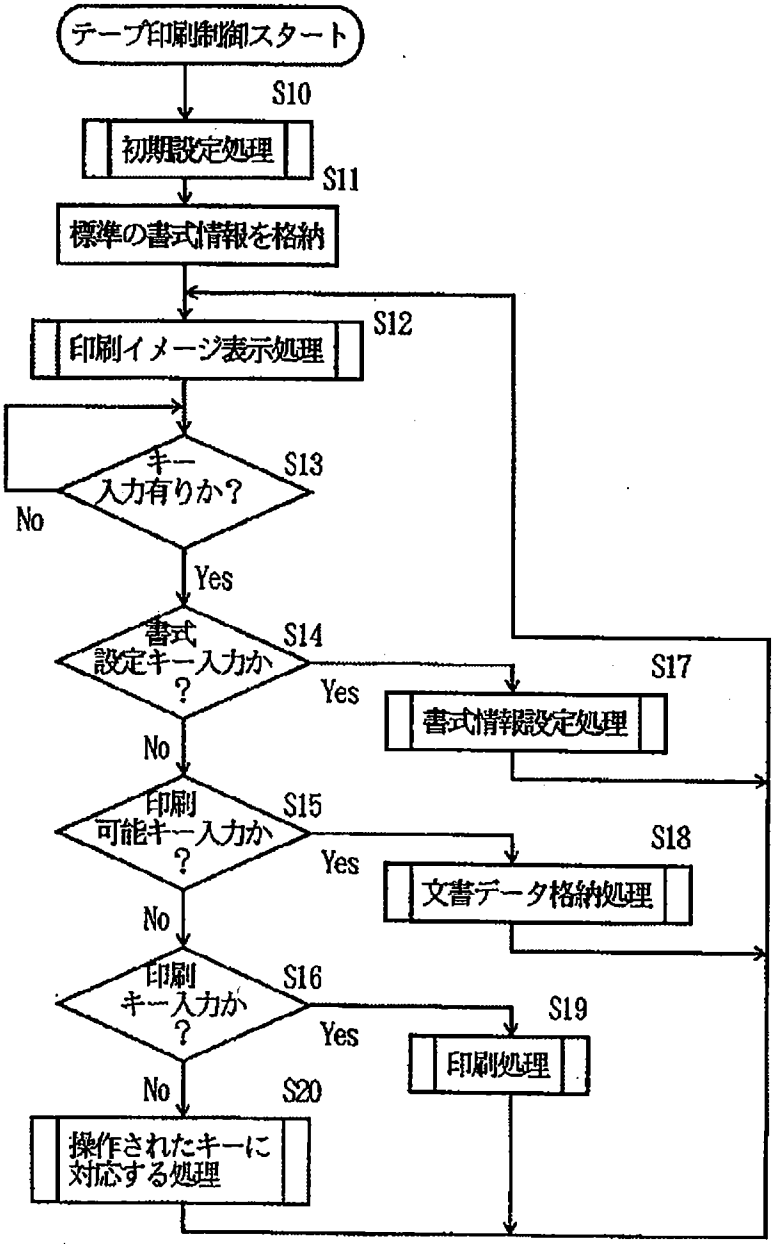
【図１１】



【図１２】



【図６】



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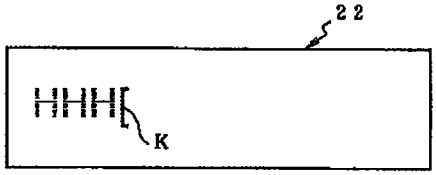

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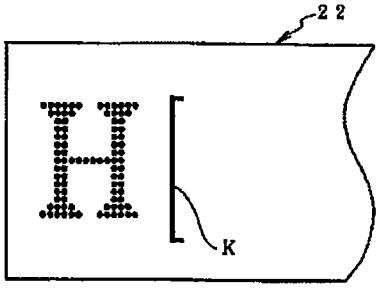
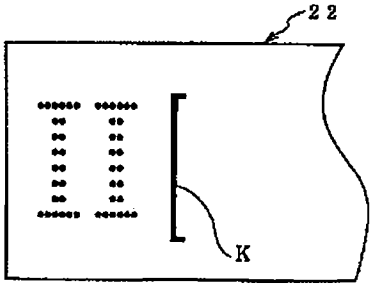
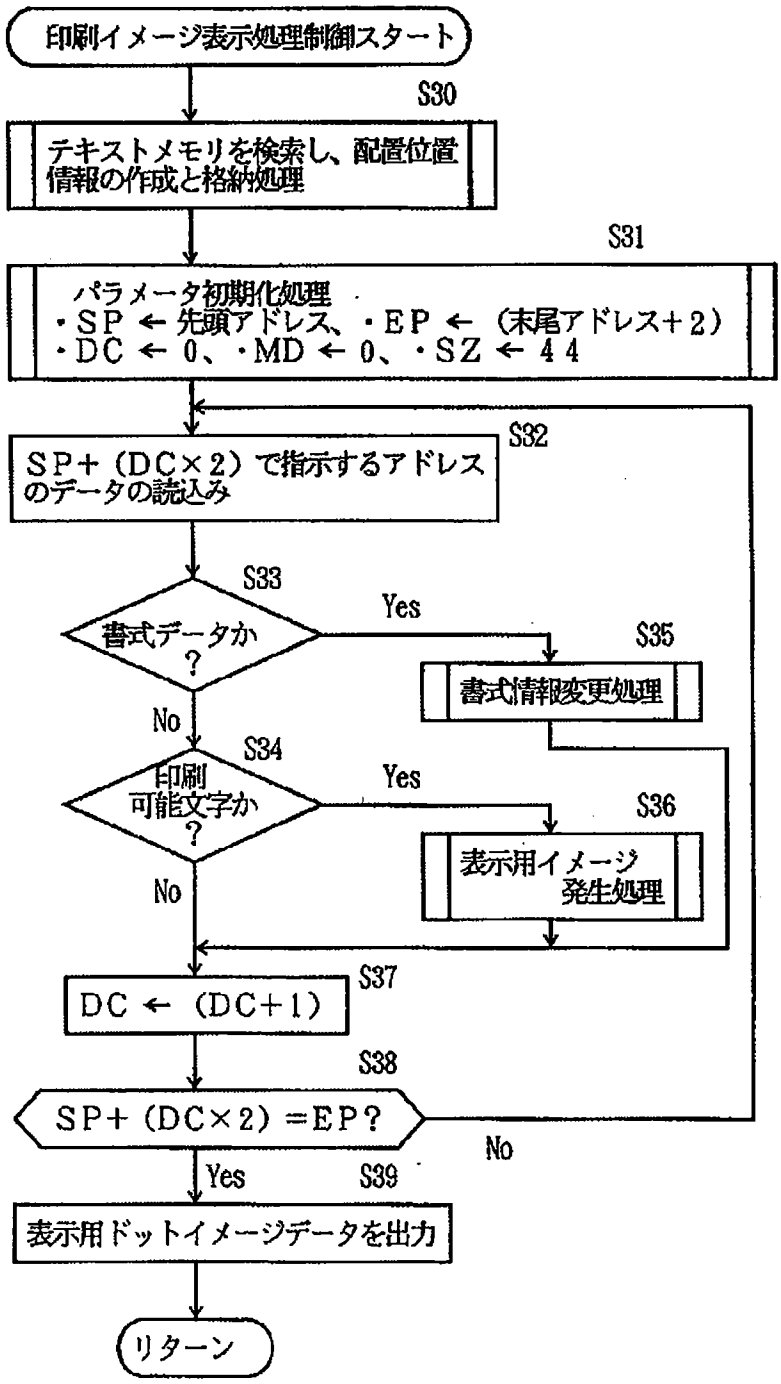


【図１６】



【図７】



フロントページの続き

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CLAIMS

[Claim(s)]
[Claim 1]An input means for inputting characters, such as a character, a sign, etc. characterized by comprising the following, and various instructions, A data storage means which memorizes data of a character inputted from this input means, A font memory means which memorized dot pattern data for a display about a character next morning for two or more styles of handwriting of every of a system or a Gothic system, A text enhancement setting-out means to set up a kind of text enhancement performed to a character which carries out a printout, Dot pattern data for a display of a style of handwriting set up from a font memory means about data of a data storage means is read, A dot image preparing means for a display which creates ornamentation dot image data for a display of two or more characters which performed text enhancement of a kind set up by a text enhancement setting-out means, A document processing device provided with a displaying means displayed on a display in response to ornamentation dot image data for a display from the dot image preparing means for a display.
Data of an ornamentation kind set up by said text enhancement setting-out means.
A displayed character size determined as character size printed by matching.
A style of handwriting printed.
A display propriety discriminating means which distinguishes for every character whether a character which performed text enhancement can be correctly displayed on a display based on predetermined distinction logic set up beforehand, A character which underwent an output from said display propriety discriminating means, and performed text enhancement when [right] it cannot display, A style-of-handwriting change commanding means which it is ordered so that text enhancement of a kind by which the character was set as said dot image preparing means for a display by a text enhancement setting-out means using dot pattern data for a display of a different style of handwriting from said set-up style of handwriting which it can be right and can be displayed on a display may be performed.

[Claim 2]When stripe ornamentation of predetermined distinction logic which uses a part at least, and a style of handwriting of a system is set up next morning, and expresses a character by two or more horizontal lines as an ornamentation kind at least is set up, said display propriety discriminating means, The document processing device according to claim 1 constituting so that logic which will be distinguished if it cannot display correctly may be included.
[Claim 3]When said style-of-handwriting change commanding means could not display said display propriety discriminating means and it distinguishes, The document processing device according to claim 2 constituting so that text enhancement of a kind which used dot pattern data for a display of a style of handwriting of a Gothic system for said dot image preparing means for a display, and was set up by a text enhancement setting-out means may be performed and it may order.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application]When especially this invention displays the inputted character by a print image about a document processing device, it relates to what changes into the right style of handwriting which can be displayed, and displayed the ornamentation character about the character which performs text enhancement and cannot be displayed correctly.
[0002]
[Description of the Prior Art]In the object for the former and Japanese, the word processor for English, etc., The document data which is fundamentally provided with the print station etc. which have a printhead of the display and keyboard for a multi-line which can display document data, or a dot printing method, and consists of an inputted character or a sign, It is displayed on matrix form by the display with predetermined character size, and when it points to a printing job about the inputted document data, based on the form information containing a printed character size, inter-character spacing, a spacing value, etc. set up beforehand, the document data can print on a print sheet. By the way, in addition to the layout display function which displays the layout of the document data inputted into the latest word processor, the thing provided with the image display function which displays the document by the same print image as a printed state is put in practical use.
[0003]That is, when displaying document data by a print image with this image display function, characters, such as a character of document data and a sign, are the displayed character sizes corresponding to the set-up printed character size, and are displayed on a display based on the style of handwriting, the inter-character spacing, and the spacing value which were moreover set up. By the way, the stripe character which expresses a character by two or more horizontal lines in the arbitrary characters and signs in this document data, When text enhancement directions of a white character (outline characters), bold print, a shadowed white character, etc. are carried out, the image display of the character and sign by which text enhancement directions were carried out is carried out to a display in the ornamentation character according to the kind of the text enhancement.
[0004]
[Problem(s) to be Solved by the Invention]In the word processor provided with the image display function as mentioned above, The character and sign with which the text enhancement directions of [in document data] were carried out, By the dot image for an ornamentation display by which ornamentation processing according to the kind of the text enhancement was performed to the dot pattern data for a display of the style of handwriting set to the displayed character size corresponding to the set-up printed character size. When displayed by a print image, the character "H" which set up the style of handwriting with the printed character size of 26 points (64 dot size) next morning, for example, As shown in drawing 15, in spite of displaying a displayed character size correctly with 21 dot sizes, when the text enhancement of a stripe character is set up to this character "H", As shown in drawing 16, 1 dot string of the transverse direction of the dot pattern data for a display of a character "H" is eliminated, the case where it is displayed as a character string "II" occurs, and there is a problem that a character like a

character "H" cannot be correctly displayed as an ornamentation character in a stripe character. The numerals K are vertical line-like cursor in a figure.
[0005]Even if various kinds of text enhancement, such as stripe text enhancement, is set up, the purpose of this invention displays any character correctly in an ornamentation character, and there is in providing the document processing device which can attain fullness-ization of the image display function about an ornamentation character.
[0006]
[Means for Solving the Problem]As shown in a functional block diagram of drawing 1, a document processing device concerning claim 1, An input means for inputting characters, such as a character and a sign, and various instructions, A data storage means which memorizes data of a character inputted from this input means, A font memory means which memorized dot pattern data for a display about a character next morning for two or more styles of handwriting of every of a system or a Gothic system, A text enhancement setting-out means to set up a kind of text enhancement performed to a character which carries out a printout, Dot pattern data for a display of a style of handwriting set up from a font memory means about data of a data storage means is read, A dot image preparing means for a display which creates ornamentation dot image data for a display of two or more characters which performed text enhancement of a kind set up by a text enhancement setting-out means, In a document processing device provided with a displaying means displayed on a display in response to ornamentation dot image data for a display from the dot image preparing means for a display, Based on data of an ornamentation kind set up by said text enhancement setting-out means, a displayed character size determined as character size printed by matching, a style of handwriting printed, and predetermined distinction logic set up beforehand, A display propriety discriminating means which distinguishes for every character whether a character which performed text enhancement can be correctly displayed on a display, A character which underwent an output from said display propriety discriminating means, and performed text enhancement when [right] it cannot display, A style-of-handwriting change commanding means which it is ordered so that text enhancement of a kind by which the character was set as said dot image preparing means for a display by a text enhancement setting-out means using dot pattern data for a display of a different style of handwriting from said set-up style of handwriting which it can be right and can be displayed on a display may be performed, it is ********.
[0007]When stripe ornamentation of predetermined distinction logic which uses a part at least, and a style of handwriting of a system is set up next morning, and expresses a character by two or more horizontal lines as an ornamentation kind at least is set up, here said display propriety discriminating means, If it cannot display correctly, it may constitute so that logic to distinguish may be included (claim 2 subordinate to claim 1). When said display propriety discriminating means could not display said style-of-handwriting change commanding means and it distinguishes, It may constitute so that text enhancement of a kind which used dot pattern data for a display of a style of handwriting of a Gothic system for said dot image preparing means for a display, and was set up by a text enhancement setting-out means may be performed and it may order (claim 3 subordinate to claim 2).
[0008]
[Function]When the kind of text enhancement performed to the character which carries out a printout via a text enhancement setting-out means with an operator in the document processing device concerning claim 1 is set up, The dot image preparing means for a display about the data of the character memorized by the data storage means. The dot pattern data for a display of the set-up style of handwriting about a character is read from a font memory means one by one, and the ornamentation dot image data for a display of two or more characters which performed text enhancement of the kind set up by the text enhancement setting-out means is created.
[0009]By the way, the data of the ornamentation kind to which the display propriety discriminating means was set by the text enhancement setting-out means, The displayed character size determined as the character size printed by matching, and the style of handwriting printed, Since it distinguishes for every character whether the character which performed text enhancement can be correctly displayed on a display based on the predetermined

distinction logic set up beforehand, a style-of-handwriting change commanding means, The character which underwent the output from a display propriety discriminating means, and performed text enhancement when [right] it cannot display, It orders so that text enhancement of the kind by which the character was set as the dot image preparing means for a display by the text enhancement setting-out means using the dot pattern data for a display of a different style of handwriting from said set-up style of handwriting which it can be right and can be displayed on a display may be performed. As a result, a displaying means is displayed on a display in response to the ornamentation dot image data for a display from the dot image preparing means for a display.

[0010]Thus, when creating the ornamentation dot pattern data for a display which performed set-up text enhancement about the dot pattern data for a display of the style of handwriting in which the character was set up, Based on the predetermined distinction logic beforehand set to the displayed character size and the style of handwriting, perform text enhancement and about the character which it can be right and can be displayed on a display. While creating the ornamentation dot pattern data for a display which performed text enhancement to the dot pattern data for a display of the style of handwriting in which the character was set up, about the right character which cannot be displayed. Since the ornamentation dot pattern data for a display which performed the text enhancement to the dot pattern data for a display of a different style of handwriting from the set-up right style of handwriting which can be displayed is created, When displaying an ornamentation character by a print image, even if various kinds of text enhancement is set up, text enhancement to which any character was set can be performed, it can display correctly, and fullness-ization of the image display function about an ornamentation character can be attained.

[0011]In the document processing device of claim 2 here, When the stripe ornamentation of predetermined distinction logic which uses a part at least, and the style of handwriting of a system is set up next morning, and expresses a character by two or more horizontal lines as an ornamentation kind at least is set up, said display propriety discriminating means, Since the logic to distinguish is included if it cannot display correctly, the character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly, It can display correctly in a stripe ornamentation character by the style of handwriting of a system, and a different style of handwriting next morning, and fullness-ization of the image display function about an ornamentation character can be attained similarly.

[0012]In the document processing device of claim 3, said style-of-handwriting change commanding means, Since it orders so that text enhancement of the kind which used the dot pattern data for a display of the style of handwriting of a Gothic system for the dot image preparing means for a display, and was set up by the text enhancement setting-out means may be performed when a display propriety discriminating means could not be displayed and it distinguishes, The character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly can also be correctly displayed in the stripe ornamentation character of the style of handwriting of a Gothic system, and fullness-ization of the image display function about an ornamentation character can be attained similarly.

[0013]

[Example]Hereafter, the example of this invention is described based on a drawing. This example is a thing at the time of applying this invention for many characters, such as an alphabetical letter and a sign, to the tape printer which can be printed to a printing tape. The keyboard 3 is allocated in the anterior part of the body frame 2 of the tape printer 1 as shown in drawing 2, In the body frame 2, print station PM is allocated behind the keyboard 3, and the character and sign of the keyboard 3 which were immediately inputted into the backside are formed in the liquid crystal display 22 which can be displayed by a print image. On this display 22, it has a display screen which is constituted from 32 dots by the lengthwise direction and constituted from 121 dots by the transverse direction. Here, the numerals 4 are the release buttons for opening the cover frame 6, when detaching and attaching tape cassette CS with which print station PM is equipped.

[0014]The letter key for inputting the alphabet, a number, and a sign into the keyboard (it is

equivalent to an input means) 3, The cursor control key for moving a space key, a return key, and the cursor K in the direction of four directions, The power key for ON-OFF [the formatting key which carries out change setting out of the form information containing a kind, a printed character size, etc. of text enhancement, the execution key which ends various kinds of setting processings, the print key which orders it printing, and a power supply], etc. are provided.
[0015]Next, when print station PM is briefly explained based on drawing 3, print station PM is equipped with tape cassette CS of rectangular shape, enabling free attachment and detachment, and to this tape cassette CS. The tape spool 8 in which the laminate film tape 7 was looped around, and the ribbon feeding spool 10 in which the printer ribbon 9 was looped around, The take-up spool 11 which rolls round this printer ribbon 9, and the feed spool 13 in which the laminate film tape 7 and the double-sided tape 12 which has identical width carried out the releasing paper outside, and was looped around, The joint roller 14 to which these laminate film tape 7 and the double-sided tape 12 are joined is formed enabling free rotation.
[0016]In the position with which said laminate film tape 7 and the printer ribbon 9 lap. The platen roller 16 which the thermal head 15 is set up and presses these laminate film tape 7 and the printer ribbon 9 to the thermal head 15, It is supported pivotably pivotable by the base material 18 which was pivoted as for the feed roller 17 which presses the laminate film tape 7 and the double-sided tape 12 to the joint roller 14, and creates the printing tape 19 enabling the free rotation to the body frame 2. The heater element groups which become this thermal head 15 from 128 heater elements are installed successively by the sliding direction.
[0017]By therefore, the drive to the predetermined hand of cut of the tape feeding motor 45 (refer to drawing 4). While the joint roller 14 and the take-up spool 11 drove respectively synchronizing with the predetermined hand of cut, when it energizes in the heater element group of the thermal head 15, On the laminate film tape 7, a character and a bar code are printed by two or more dot strings, And where the double-sided tape 12 is joined, the tape feed of the laminate film tape 7 is carried out in the direction A of a tape feed as the printing tape 19, and as shown in drawing 2 and drawing 3, it is sent out to the exterior of the body frame 2. Refer to JP,2-106555,A about the details of print station PM.
[0018]Next, when this printing tape 19 is briefly explained about the cutting device 30 cut automatically based on drawing 3, the body frame 2 corresponding to the left-hand side of said tape cassette CS immediately inside, The tabular auxiliary frame 31 was set up and the stationary knife 32 has adhered to this auxiliary frame 31 upward. The front end near part of the control lever 34 prolonged in a cross direction is supported pivotably rotatable, and from the supporting shaft 33 of the control lever 34, in the part corresponding to a front side, the movable blade 35 counters the supporting shaft 33 facing longitudinal directions which adhered to the auxiliary frame 31 with said stationary knife 32, and is attached to it. The rear end part of the control lever 34 is constituted by the swinging and driving mechanism (graphic display abbreviation) connected with the motor 46 (refer to drawing 4) for cutting so that a vertical swing is possible, and after the movable blade 35 has estranged from the stationary knife 32, it is held at the usual state.
[0019]And the printing tape 19 printed by the thermal head 15, Since it has extended out of the body frame 2 through between the stationary knife 32 and the movable blades 35 from tape cassette CS, By the motor 46 for cutting driven with the disconnect signal, the vertical swing of the rear end part of the control lever 34 is carried out via a swinging and driving mechanism, the movable blade 35 approaches the stationary knife 32, and the printing tape 19 is cut with these double-edged swords 32 and 35.
[0020]By the way, as the printing tape 19 sent out from said tape cassette CS, Five kinds which shall be 6 mm, 9 mm, 12 mm, 18 mm, and 24 mm in tape width are prepared, and in order to detect any of these five kinds of tape width they are, the projected piece 20 which combined the existence of four projection nails is formed in the bottom wall part of these tape cassette CS. And the cassette sensor 42 (refer to drawing 4) which detects tape width from the combination of the projection nail of this projected piece 20 is attached to the body frame 2 which supports this tape cassette CS bottom. With namely, the combination of the projection nail as for which this cassette sensor 42 constitutes the projected piece 20. For example, when the cassette

signal of "0100" is outputted when tape width is 24 mm, and tape width is 12 mm, while outputting the cassette signal of "1100", when not being equipped with tape cassette CS, the KAKASETTO signal of "0000" is outputted.

[0021]Next, the control system of the tape printer 1 is constituted as shown in the block diagram of drawing 4. In I/O interface 50 of the control device C. The keyboard 3, the cassette sensor 42, and the controller displays (LCDC) 23 that have Video RAM 24 for outputting an indicative data to the liquid crystal display (LCD) 22, The drive circuit 44 for the buzzer 43 for warning, the drive circuit 47 for driving the thermal head 15, the drive circuit 48 for driving the tape feeding motor 45, and the drive circuit 49 for driving the motor 46 for cutting are connected, respectively.

[0022]The control device C CPU52, It comprises I/O interface 50 connected to this CPU52 via the buses 51, such as a data bus, CG(character generator) ROM53 for a display, CG(character generator) ROM54 for printing, ROM55, and RAM60. In CGROM(it is equivalent to font memory means)53 for a display. About each of many characters, such as an alphabetical letter and a sign, The dot pattern data for a display makes each styles of handwriting (Mincho a Gothic system style of handwriting, a system style of handwriting, etc.) of every correspond to six kinds (7, 10, 16, 21, 32, 32BIG dot) of displayed character sizes, and coded data, and is stored in it. Here, the displayed character size of 32BIG dot is a displayed character size which can be displayed more greatly than 32-dot character size at the time of the character string which is not protruded into the baseline bottom like the capital letter of the alphabet.

[0023]In CGROM54 for printing, about each of many characters, such as an alphabetical letter and a sign, The dot pattern data for printing is seven kinds (six points : 16 dots) per style of handwriting. It is made to correspond to a part for the printed character size of ten points : 24 dots, 13 points : 32 dots, 19 points : 48 dots, 26 points : 64 dots, 38 points : 96 dots, and a 44 point:96BIG dot, and coded data, and is stored. Here, the printed character size of 96BIG dot is the character size which can be printed more greatly than 96-dot character size at the time of the character string which is not protruded into the baseline bottom like the capital letter of the alphabet.

[0024]A display driving control program which makes it correspond to the coded data of characters, such as a character, a number, a sign, etc. which were inputted into ROM55 from the keyboard 3, and controls the controller displays 23, In a character or a sign, an underline, an shaded character, a board, italics, The stripe character, outline (white character) which express a character by two or more horizontal lines, The text enhancement control program which performs various kinds of text enhancement, such as a shadow character, the printing driving control program which reads the data of the print data buffer 66 one by one, and drives the thermal head 15 and the tape feeding motor 45, the control program of the below-mentioned tape printing controlling peculiar to this application, etc. are stored. As shown in drawing 5, character size translation table TB1 the displayed character size when printing in the printed character size SZ and its size was made to correspond is stored in this ROM55.

[0025]Although not illustrated to ROM55, The printer graphic search table for every [the start address (index address) of CGROM54 for printing in which the dot pattern data of a series of characters or a sign about seven kinds of printed character sizes and each printed character size is stored was made to correspond] style of handwriting, The printer graphic index table to which this index address and the storage location head address in CGROM54 for printing of each character or a sign were made to correspond is stored. The printable character search table to which the start address (index address) of CGROM53 for a display in which the dot pattern data of a series of characters or a sign about six kinds of displayed character sizes and each displayed character size is stored was made to correspond although not illustrated to ROM55, The printable character index table to which this index address and the storage location head address in CGROM53 for a display of each character or a sign were made to correspond is stored.

[0026]The document data inputted from the keyboard 3 is stored in the text memory (it is equivalent to a data storage means) 61 of RAM60. Pointer value SP of a head address pointer who directs the start address of the text memory 61 in the parameter memory 62, Pointer value

EP of the end address pointer which directs the end address, and data counted value DC, data MD of a text enhancement number and the data of the printed character size SZ are stored. The called-for data of a displayed character size is stored in the printable character size memory 63. The display position information in the display data buffer 65 of each character or a sign to display is stored in the locating position information memory 64. The inputted dot pattern data for a display of two or more characters or a sign compounds in the display data buffer 65, and it is stored in it, and the dot pattern data for printing of two or more characters or a sign with which printing is presented compounds to the print data buffer 66, and it is stored in it as dot image data for printing. In addition, the work memory 67 is formed.

[0027]Next, the routine of the tape printing controlling performed with the control device C of the tape printer 1 is explained based on the flow chart of drawing 6 - drawing 9. Numerals Si in a figure (i= 10, 11, 12 ....) is each step. If a power supply is switched on by the power key on the keyboard 3, while this control will be started and clearing each memories 61-67 of RAM60 first, initialization processing which initializes print station PM is performed (S10). Next, it is stored in 2 bytes of the head of the text memory 61 by standard form information data, and on the display 22. While the print image display screen which displays an input character by the same print image as a printed state is displayed, the vertical line-like cursor K which has a size of the displayed character size corresponding to the printed character size of standard documentation information is displayed on this display screen (S11). For example, as shown in drawing 10, "44pt (point)" is stored in 2 bytes of the head of the text memory 61 as standard documentation information as the "Mincho style of handwriting" and the printed character size SZ as data MD of a text enhancement number, respectively as "0 (with no ornamentation)", and the style-of-handwriting number data FN.

[0028]Next, print image display processing which displays the character stored in the text memory 61 and a sign by a print image is performed (S12). About this print image display processing, it will mention later on account of explanation. And when a formatting key is operated, (S13 and S14:Yes), and form information setting processing control are performed (S17), and it shifts to S13 through S12. Since the contents of formatting, such as the class name and printed character size of text enhancement, and a style-of-handwriting name, are put in block and the formatting screen which can be set up is displayed on the display 22 in this form information setting processing control, If a cursor control key is operated, and an execution key is operated after moving cursor to a setting-out item "class name of text enhancement", a "printed character size name", and a "style-of-handwriting name" and inputting the numerical keypad corresponding to a desired setting detail, The form information containing the data of text enhancement number MD set up numerically or the printed character size SZ is stored in the text memory 61 as change form information.

[0029]here -- as the kind and its setting-out number of text enhancement -- 0:ornamentation nothing, 1:underline, 2:shaded character, and 3: -- a board, 4:italics, 5:stripe, 6:outline (white character), and 7:shadow character -- setting out of ... is attained. Setting out of 1:6pt, 2:10pt, 3:13pt, 4:19pt, 5:26pt, 6:38pt, and 7:44pt is attained as a printed character size and its setting-out number. For example, when only text enhancement number MD is changed into "5 (stripe)" by the time it inputs document data as shown in drawing 10, change form information including this changed setup information is stored at 2 bytes after said standard documentation information in the text memory 61.

[0030]next -- the time (S13: --) of keys which can be printed, such as an alphabetical-letter key, a symbol key, and a numerical keypad, being operated [Yes and] S14: The document data storing process stored in the text memory 61 by using the coded data of No, S15:Yes, and the operated key that can be printed as document data is performed (S18), and print image display-processing control is performed (S12). Next, this print image display-processing control is explained based on drawing 7. At this time, as shown in drawing 10, the code of standard documentation information, change form information, and a character string "HHH" shall be stored in the text memory 61 one by one.

[0031]If this control is started, about each of the character and sign which sequential retrieval of the data in the text memory 61 is carried out from a start address, and it displays based on form

information, a character code, or a line feed code first, The locating position information for developing the dot pattern data for a display to the display data buffer 65 is searched for, and the locating position information is stored in the locating position information memory 64 (S30). Locating position information searches for the character arrangement position at the time of printing from form information, a character code, a line feed code, and the dot pattern data for printing, and is searched for by tripling 1/of the coordinate value and considering it as the locating position for a display, for example.

[0032]Next, initialization processing which initializes the parameter information about the printing job in the parameter memory 62 is performed (S31). Namely, the start address of the text memory 61 is set to head address pointer value SP in the parameter memory 62 (refer to drawing 10), The next address (end address+2) of the end address of the text memory 61 is set to end address pointer value EP (refer to drawing 10), The initial value "0" is set as data counted value DC, and "0 (with no ornamentation)" is set as text enhancement number MD, and also "44pt" is set as the printed character size SZ.

[0033]Next, since data and the character code of form information are 2-byte composition, respectively, to a start address. The data of the search address adding a part for the address which doubled data counted value DC is read (S32), and when the data is data of form information, (S33:Yes) and form information change processing control (refer to drawing 8) are performed (S35). If this control is started, the printed character size data YSZ first stored in that form information will be read (S42), When the printed character size SZ and its read in printed character size YSZ in the parameter memory 62 differ from each other, it is changed into the read in printed character size YSZ as the printed character size SZ of (S43:No) and the parameter memory 62 (S44). When the printed character size SZ and its read in printed character size YSZ are equal, it shifts to (S43:Yes) and S45.

[0034]Next, the text enhancement number data YMD stored in the form information is read (S45), When text enhancement number MD and its read in text enhancement number data YMD in the parameter memory 62 differ from each other, it is changed into the read in text enhancement number YMD as (S46:No) and text enhancement number MD of the parameter memory 62 (S47). When text enhancement number MD and its read in text enhancement number YMD are equal, it shifts to (S46:Yes) and S48. Next, when it is searched similarly and changed also about the form information of others, such as a style of handwriting, that changed data of a form updates, is stored (S48), ends this control, and carries out a return to S37 of print image display-processing control.

[0035]Next, in print image display-processing control, it **********s one data counted value DC (S37), The search address which added a part for the address which doubled data counted value DC to head address pointer value (start address) SP, and the address directed by end address pointer value EP do not agree, When the character with which a display is presented exists in the text memory 61, (S38:No) and S32 or subsequent ones are performed repeatedly. And when it is a character code which can print the data of a search address, image generation processing control for a (S33:No, S34:Yes) display (refer to drawing 9) is performed (S36).

[0036]If this control is started, based on the data in the parameter memory 62, and the data of character size translation table TB1, first, The displayed character size corresponding to the printed character size SZ is read (S50), Based on the printable character search table about the style of handwriting set to this displayed character size, The index address of CGROM53 for a display in which the dot pattern data of a series of characters of the displayed character size or a sign is stored is read (S51), Based on the index address, printable character index table, and character code, The storage location head address of the character code about the set-up style of handwriting in CGROM53 for a display, That is, a font memory address is read (S52), and the dot pattern data for a display stored in the font memory address is read from CGROM53 for a display, and is once stored in the work memory 67 (S53).

[0037]When text enhancement number MD performs not "0" but text enhancement processing, next, (S54:No), Based on the kind of text enhancement, a displayed character size, a style of handwriting, and predetermined distinction logic, It is distinguished whether the character which performed text enhancement processing can display correctly on the display 22 (S55), When the

character which performed text enhancement processing can be right and can display as a result of the distinction propriety, (S56:Yes), Text enhancement processing of the ornamentation kind directed by text enhancement number MD about the character using the dot pattern data for a display of the set-up style of handwriting stored in the work memory 67 is performed, This ornamentation dot pattern data for a display by which text enhancement processing was carried out is updated and stored in the work memory 67 (S57), and shifts to S59. When text enhancement number MD does not perform text enhancement processing by "0", it shifts to (S54:Yes) and S59.

[0038]However, when the character which performed text enhancement processing can be right and cannot display as a result of distinction propriety, When the character changes and is displayed, that is, (S56:No), It is changed and set as a Gothic style of handwriting as a style of handwriting for a display (S58), and text enhancement processing of the ornamentation kind directed by text enhancement number MD using the changed dot pattern data for a display of a Gothic style of handwriting is performed, This ornamentation dot pattern data for a display by which text enhancement processing was carried out is updated and stored in the work memory 67 (S57), and shifts to S59. And the dot pattern data for a display stored in the work memory 67, It is stored in the storing position of the display data buffer 65 directed by the locating position data of that character stored in the locating position information memory 64 as dot image data for a display (S59), this control is ended, and a return is carried out to S37 of print image display-processing control.

[0039]When the predetermined distinction logic mentioned above is explained here, a text enhancement kind is "stripe ornamentation", When the printed character size SZ is "26 or less pt" and also a style of handwriting is the "Mincho style of handwriting", In the dot pattern data for a display of the printed character size SZ a displayed character size becomes small at 21 or less dot sizes, and concerning the Mincho style of handwriting of a character, It is eclipse ****** with logic so that it may distinguish if a character cannot change and it cannot display correctly since lateral 1-dot line data may be eliminated by stripe ornamentation.

[0040]Next, in print image display-processing control to a start address after performing S37. When the search address adding a part for the address which doubled data counted value DC, and the address directed by end address pointer value EP agree, (S38:Yes), The dot image data for a display stored in the display data buffer 65 by developing is outputted to Video RAM 24, is displayed on the display 22 (S39), ends this control, and carries out a return to S13 of tape printing controlling.

[0041]For example, when the form information and the character code string "HHH" which are shown in drawing 10 are stored in the text memory 61. Since the kind of text enhancement is set as a "stripe", and "44pt" is set up as the printed character size SZ and also the style of handwriting is set as the "Mincho style of handwriting", Since it can display correctly about these character strings "HHH" with the distinction logic mentioned above, as it is shown in drawing 11, about these character strings "HHH", it is the character size of 44 points of a style of handwriting next morning, and text enhancement of a "stripe" is performed and it is correctly displayed on the display 22.

[0042]On the other hand, when the form information and the character code string "HHH" which are shown in drawing 12 are stored in the text memory 61, Since the kind of text enhancement is set as a "stripe", and "26pt" is set up as the printed character size SZ and also the style of handwriting is set as the "Mincho style of handwriting", As it changes into a "Gothic style of handwriting" as a style of handwriting by the distinction logic mentioned above since it cannot display correctly about these character strings "HHH", and it is set up and it is shown in drawing 13, About these character strings "HHH", it is the character size of 26 points of a Gothic style of handwriting, and text enhancement of a "stripe" is performed and a display becomes it is right and possible at the display 22.

[0043]Next, in tape printing controlling, when a print key is operated, (S13:Yes, S14-S15:No, S16:Yes), and printing job control are performed (S19), and it returns to S12. Since this printing job control is the same as the usual printing job, if it explains briefly, Form information and a character code are read from the text memory 61 one by one, and based on a printer graphic

search table and a printer graphic index table, The dot pattern data for printing in CGROM54 for printing of that character code is read, it develops to the print data buffer 66, and synthetic storing is carried out, and the dot image data for printing of this print data buffer 66 is outputted to print station PM, and is printed by the printing tape 19.
[0044]When the form information and the character code string "HHH" which are shown in drawing 12 are stored in the text memory 61 at this time, As shown in drawing 14, these character code strings "HHH" are the printed character sizes of 26pt of a style of handwriting next morning which was set up, and moreover text enhancement of a stripe is performed and they are correctly printed by the printing tape 19. By the way, when keys other than a formatting key, the key which can be printed, and a print key are operated, processing corresponding to (S13:Yes, S14-S16:No), and its operated key is performed (S20), and it returns to S12.
[0045]As explained above, when creating the ornamentation dot pattern data for a display which performed set-up text enhancement about the dot pattern data for a display of the style of handwriting in which the character was set up, Based on the predetermined distinction logic beforehand set to the displayed character size and the style of handwriting, perform text enhancement and about the character which it can be right and can be displayed on a display. While creating the ornamentation dot pattern data for a display which performed text enhancement to the dot pattern data for a display of the style of handwriting in which the character was set up, The printed character size of 26 or less pt is set to the style of handwriting of a system next morning, and it is set up by stripe ornamentation, and about the right character which cannot be displayed. Since the ornamentation dot image data for a display which performed the stripe ornamentation to the dot pattern data for a display of the right Gothic style of handwriting which can be displayed is created, When displaying an ornamentation character by a print image, the character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly can also be correctly displayed by stripe ornamentation of the style of handwriting of a Gothic system, and fullness-ization of the image display function about an ornamentation character can be attained.
[0046]When the correspondence relation between each means indicated to the claim and the composition in the above-mentioned example is explained here, are image generation processing control for a display, especially the things equivalent to a display propriety discriminating means are S54-S55.
Are image generation processing control for a display, especially the things equivalent to a style-of-handwriting change commanding means are S56:Yes and S58.

[0047]The distinction logic which distinguishes the display propriety of the ornamentation character mentioned above is only what showed an example, and can change a distinction standard suitably based on the size of the display screen of the display 22, the composition dot number of the dot pattern data for a display, etc. It is also possible to constitute from a printed character size of 26 or less points about the character distinguished by stripe ornamentation when it could not display correctly, with a style of handwriting, next morning so that it may change into the Mincho style of handwriting of a Gothic system. It may be made to ask for a printed character size by an operation from the number of lines of the document inputted as the tape width of the printing tape 19. Based on the existing art or art obvious to a person skilled in the art, various change can be added within the limits of the technical idea of this invention about control of said example. It has a keyboard, a display, and a printer and, of course, this invention can be applied to various document processing devices, such as a word processor in which text enhancement processing is possible.
[0048]
[Effect of the Invention]According to the document processing device concerning claim 1, an input means, a data storage means, a font memory means, a text enhancement setting-out means, the dot image preparing means for a display, and a displaying means to the document processing device which it had A display propriety discriminating means, When creating the ornamentation dot pattern data for a display which performed set-up text enhancement about the dot pattern data for a display of the style of handwriting which established the style-of-

handwriting change commanding means, and in which the character was set up, Based on the predetermined distinction logic beforehand set to the displayed character size and the style of handwriting, perform text enhancement and about the character which it can be right and can be displayed on a display. While creating the ornamentation dot pattern data for a display which performed text enhancement to the dot pattern data for a display of the style of handwriting in which the character was set up, about the right character which cannot be displayed. Since the ornamentation dot image data for a display which performed the text enhancement to the dot pattern data for a display of a different style of handwriting from the set-up right style of handwriting which can be displayed is created, When displaying an ornamentation character by a print image, even if various kinds of text enhancement is set up, text enhancement to which any character was set can be performed, it can display correctly, and fullness-ization of the image display function about an ornamentation character can be attained.

[0049]According to the document processing device concerning claim 2, said display propriety discriminating means, When the stripe ornamentation of predetermined distinction logic which uses a part at least, and the style of handwriting of a system is set up next morning, and expresses a character by two or more horizontal lines as an ornamentation kind at least is set up, Since the logic to distinguish is included if it cannot display correctly, the character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly, It can display correctly in a stripe ornamentation character by the style of handwriting of a system, and a different style of handwriting next morning, and fullness-ization of the image display function about an ornamentation character can be attained similarly.

[0050]According to the document processing device concerning claim 3, said style-of-handwriting change commanding means, Since it orders so that text enhancement of the kind which used the dot pattern data for a display of the style of handwriting of a Gothic system for the dot image preparing means for a display, and was set up by the text enhancement setting-out means may be performed when a display propriety discriminating means could not be displayed and it distinguishes, The character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly can also be correctly displayed in the stripe ornamentation character of the style of handwriting of a Gothic system, and fullness-ization of the image display function about an ornamentation character can be attained similarly.

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TECHNICAL FIELD

[Industrial Application]When especially this invention displays the inputted character by a print image about a document processing device, it relates to what changes into the right style of handwriting which can be displayed, and displayed the ornamentation character about the character which performs text enhancement and cannot be displayed correctly.

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PRIOR ART

[Description of the Prior Art]In the object for the former and Japanese, the word processor for English, etc., The document data which is fundamentally provided with the print station etc. which have a printhead of the display and keyboard for a multi-line which can display document data, or a dot printing method, and consists of an inputted character or a sign, It is displayed on matrix form by the display with predetermined character size, and when it points to a printing job about the inputted document data, based on the form information containing a printed character size, inter-character spacing, a spacing value, etc. set up beforehand, the document data can print on a print sheet. By the way, in addition to the layout display function which displays the layout of the document data inputted into the latest word processor, the thing provided with the image display function which displays the document by the same print image as a printed state is put in practical use.
[0003]That is, when displaying document data by a print image with this image display function, characters, such as a character of document data and a sign, are the displayed character sizes corresponding to the set-up printed character size, and are displayed on a display based on the style of handwriting, the inter-character spacing, and the spacing value which were moreover set up. By the way, the stripe character which expresses a character by two or more horizontal lines in the arbitrary characters and signs in this document data, When text enhancement directions of a white character (outline characters), bold print, a shadowed white character, etc. are carried out, the image display of the character and sign by which text enhancement directions were carried out is carried out to a display in the ornamentation character according to the kind of the text enhancement.

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EFFECT OF THE INVENTION

[Effect of the Invention]According to the document processing device concerning claim 1, an input means, a data storage means, a font memory means, a text enhancement setting-out means, the dot image preparing means for a display, and a displaying means to the document processing device which it had A display propriety discriminating means, When creating the ornamentation dot pattern data for a display which performed set-up text enhancement about the dot pattern data for a display of the style of handwriting which established the style-of-handwriting change commanding means, and in which the character was set up, Based on the predetermined distinction logic beforehand set to the displayed character size and the style of handwriting, perform text enhancement and about the character which it can be right and can be displayed on a display. While creating the ornamentation dot pattern data for a display which performed text enhancement to the dot pattern data for a display of the style of handwriting in which the character was set up, about the right character which cannot be displayed. Since the ornamentation dot image data for a display which performed the text enhancement to the dot pattern data for a display of a different style of handwriting from the set-up right style of handwriting which can be displayed is created, When displaying an ornamentation character by a print image, even if various kinds of text enhancement is set up, text enhancement to which any character was set can be performed, it can display correctly, and fullness-ization of the image display function about an ornamentation character can be attained.
[0049]According to the document processing device concerning claim 2, said display propriety discriminating means, When the stripe ornamentation of predetermined distinction logic which uses a part at least, and the style of handwriting of a system is set up next morning, and expresses a character by two or more horizontal lines as an ornamentation kind at least is set up, Since the logic to distinguish is included if it cannot display correctly, the character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly, It can display correctly in a stripe ornamentation character by the style of handwriting of a system, and a different style of handwriting next morning, and fullness-ization of the image display function about an ornamentation character can be attained similarly.
[0050]According to the document processing device concerning claim 3, said style-of-handwriting change commanding means, Since it orders so that text enhancement of the kind which used the dot pattern data for a display of the style of handwriting of a Gothic system for the dot image preparing means for a display, and was set up by the text enhancement setting-out means may be performed when a display propriety discriminating means could not be displayed and it distinguishes, The character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly can also be correctly displayed in the stripe ornamentation character of the style of handwriting of a Gothic system, and fullness-ization of the image display function about an ornamentation character can be attained similarly.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]In the word processor provided with the image display function as mentioned above, The character and sign with which the text enhancement directions of [in document data] were carried out, By the dot image for an ornamentation display by which ornamentation processing according to the kind of the text enhancement was performed to the dot pattern data for a display of the style of handwriting set to the displayed character size corresponding to the set-up printed character size. When displayed by a print image, the character "H" which set up the style of handwriting with the printed character size of 26 points (64 dot size) next morning, for example, As shown in drawing 15, in spite of displaying a displayed character size correctly with 21 dot sizes, when the text enhancement of a stripe character is set up to this character "H", As shown in drawing 16, 1 dot string of the transverse direction of the dot pattern data for a display of a character "H" is eliminated, the case where it is displayed as a character string "II" occurs, and there is a problem that a character like a character "H" cannot be correctly displayed as an ornamentation character in a stripe character. The numerals K are vertical line-like cursor in a figure.
[0005]Even if various kinds of text enhancement, such as stripe text enhancement, is set up, the purpose of this invention displays any character correctly in an ornamentation character, and there is in providing the document processing device which can attain fullness-ization of the image display function about an ornamentation character.

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MEANS

[Means for Solving the Problem]As shown in a functional block diagram of drawing 1, a document processing device concerning claim 1, An input means for inputting characters, such as a character and a sign, and various instructions, A data storage means which memorizes data of a character inputted from this input means, A font memory means which memorized dot pattern data for a display about a character next morning for two or more styles of handwriting of every of a system or a Gothic system, A text enhancement setting-out means to set up a kind of text enhancement performed to a character which carries out a printout, Dot pattern data for a display of a style of handwriting set up from a font memory means about data of a data storage means is read, A dot image preparing means for a display which creates ornamentation dot image data for a display of two or more characters which performed text enhancement of a kind set up by a text enhancement setting-out means, In a document processing device provided with a displaying means displayed on a display in response to ornamentation dot image data for a display from the dot image preparing means for a display, Based on data of an ornamentation kind set up by said text enhancement setting-out means, a displayed character size determined as character size printed by matching, a style of handwriting printed, and predetermined distinction logic set up beforehand, A display propriety discriminating means which distinguishes for every character whether a character which performed text enhancement can be correctly displayed on a display, A character which underwent an output from said display propriety discriminating means, and performed text enhancement when [right] it cannot display, A style-of-handwriting change commanding means which it is ordered so that text enhancement of a kind by which the character was set as said dot image preparing means for a display by a text enhancement setting-out means using dot pattern data for a display of a different style of handwriting from said set-up style of handwriting which it can be right and can be displayed on a display may be performed, it is ********.
[0007]When stripe ornamentation of predetermined distinction logic which uses a part at least, and a style of handwriting of a system is set up next morning, and expresses a character by two or more horizontal lines as an ornamentation kind at least is set up, here said display propriety discriminating means, If it cannot display correctly, it may constitute so that logic to distinguish may be included (claim 2 subordinate to claim 1). When said display propriety discriminating means could not display said style-of-handwriting change commanding means and it distinguishes, It may constitute so that text enhancement of a kind which used dot pattern data for a display of a style of handwriting of a Gothic system for said dot image preparing means for a display, and was set up by a text enhancement setting-out means may be performed and it may order (claim 3 subordinate to claim 2).

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OPERATION

[Function]When the kind of text enhancement performed to the character which carries out a printout via a text enhancement setting-out means with an operator in the document processing device concerning claim 1 is set up, The dot image preparing means for a display about the data of the character memorized by the data storage means. The dot pattern data for a display of the set-up style of handwriting about a character is read from a font memory means one by one, and the ornamentation dot image data for a display of two or more characters which performed text enhancement of the kind set up by the text enhancement setting-out means is created.
[0009]By the way, the data of the ornamentation kind to which the display propriety discriminating means was set by the text enhancement setting-out means, The displayed character size determined as the character size printed by matching, and the style of handwriting printed, Since it distinguishes for every character whether the character which performed text enhancement can be correctly displayed on a display based on the predetermined distinction logic set up beforehand, a style-of-handwriting change commanding means, The character which underwent the output from a display propriety discriminating means, and performed text enhancement when [right] it cannot display, It orders so that text enhancement of the kind by which the character was set as the dot image preparing means for a display by the text enhancement setting-out means using the dot pattern data for a display of a different style of handwriting from said set-up style of handwriting which it can be right and can be displayed on a display may be performed. As a result, a displaying means is displayed on a display in response to the ornamentation dot image data for a display from the dot image preparing means for a display.
[0010]Thus, when creating the ornamentation dot pattern data for a display which performed set-up text enhancement about the dot pattern data for a display of the style of handwriting in which the character was set up, Based on the predetermined distinction logic beforehand set to the displayed character size and the style of handwriting, perform text enhancement and about the character which it can be right and can be displayed on a display. While creating the ornamentation dot pattern data for a display which performed text enhancement to the dot pattern data for a display of the style of handwriting in which the character was set up, about the right character which cannot be displayed. Since the ornamentation dot pattern data for a display which performed the text enhancement to the dot pattern data for a display of a different style of handwriting from the set-up right style of handwriting which can be displayed is created, When displaying an ornamentation character by a print image, even if various kinds of text enhancement is set up, text enhancement to which any character was set can be performed, it can display correctly, and fullness-ization of the image display function about an ornamentation character can be attained.
[0011]In the document processing device of claim 2 here, When the stripe ornamentation of predetermined distinction logic which uses a part at least, and the style of handwriting of a system is set up next morning, and expresses a character by two or more horizontal lines as an ornamentation kind at least is set up, said display propriety discriminating means, Since the logic to distinguish is included if it cannot display correctly, the character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be

displayed correctly, It can display correctly in a stripe ornamentation character by the style of handwriting of a system, and a different style of handwriting next morning, and fullness-ization of the image display function about an ornamentation character can be attained similarly.
[0012]In the document processing device of claim 3, said style-of-handwriting change commanding means, Since it orders so that text enhancement of the kind which used the dot pattern data for a display of the style of handwriting of a Gothic system for the dot image preparing means for a display, and was set up by the text enhancement setting-out means may be performed when a display propriety discriminating means could not be displayed and it distinguishes, The character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly can also be correctly displayed in the stripe ornamentation character of the style of handwriting of a Gothic system, and fullness-ization of the image display function about an ornamentation character can be attained similarly.

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EXAMPLE

[Example]Hereafter, the example of this invention is described based on a drawing. This example is a thing at the time of applying this invention for many characters, such as an alphabetical letter and a sign, to the tape printer which can be printed to a printing tape. The keyboard 3 is allocated in the anterior part of the body frame 2 of the tape printer 1 as shown in drawing 2, In the body frame 2, print station PM is allocated behind the keyboard 3, and the character and sign of the keyboard 3 which were immediately inputted into the backside are formed in the liquid crystal display 22 which can be displayed by a print image. On this display 22, it has a display screen which is constituted from 32 dots by the lengthwise direction and constituted from 121 dots by the transverse direction. Here, the numerals 4 are the release buttons for opening the cover frame 6, when detaching and attaching tape cassette CS with which print station PM is equipped.
[0014]The letter key for inputting the alphabet, a number, and a sign into the keyboard (it is equivalent to an input means) 3, The cursor control key for moving a space key, a return key, and the cursor K in the direction of four directions, The power key for ON-OFF [the formatting key which carries out change setting out of the form information containing a kind, a printed character size, etc. of text enhancement, the execution key which ends various kinds of setting processings, the print key which orders it printing, and a power supply], etc. are provided.
[0015]Next, when print station PM is briefly explained based on drawing 3, print station PM is equipped with tape cassette CS of rectangular shape, enabling free attachment and detachment, and to this tape cassette CS. The tape spool 8 in which the laminate film tape 7 was looped around, and the ribbon feeding spool 10 in which the printer ribbon 9 was looped around, The take-up spool 11 which rolls round this printer ribbon 9, and the feed spool 13 in which the laminate film tape 7 and the double-sided tape 12 which has identical width carried out the releasing paper outside, and was looped around, The joint roller 14 to which these laminate film tape 7 and the double-sided tape 12 are joined is formed enabling free rotation.
[0016]In the position with which said laminate film tape 7 and the printer ribbon 9 lap. The platen roller 16 which the thermal head 15 is set up and presses these laminate film tape 7 and the printer ribbon 9 to the thermal head 15, It is supported pivotably pivotable by the base material 18 which was pivoted as for the feed roller 17 which presses the laminate film tape 7 and the double-sided tape 12 to the joint roller 14, and creates the printing tape 19 enabling the free rotation to the body frame 2. The heater element groups which become this thermal head 15 from 128 heater elements are installed successively by the sliding direction.
[0017]By therefore, the drive to the predetermined hand of cut of the tape feeding motor 45 (refer to drawing 4). While the joint roller 14 and the take-up spool 11 drove respectively synchronizing with the predetermined hand of cut, when it energizes in the heater element group of the thermal head 15, On the laminate film tape 7, a character and a bar code are printed by two or more dot strings, And where the double-sided tape 12 is joined, the tape feed of the laminate film tape 7 is carried out in the direction A of a tape feed as the printing tape 19, and as shown in drawing 2 and drawing 3, it is sent out to the exterior of the body frame 2. Refer to JP,2-106555,A about the details of print station PM.
[0018]Next, when this printing tape 19 is briefly explained about the cutting device 30 cut

automatically based on drawing 3, the body frame 2 corresponding to the left-hand side of said tape cassette CS immediately inside, The tabular auxiliary frame 31 was set up and the stationary knife 32 has adhered to this auxiliary frame 31 upward. The front end near part of the control lever 34 prolonged in a cross direction is supported pivotably rotatable, and from the supporting shaft 33 of the control lever 34, in the part corresponding to a front side, the movable blade 35 counters the supporting shaft 33 facing longitudinal directions which adhered to the auxiliary frame 31 with said stationary knife 32, and is attached to it. The rear end part of the control lever 34 is constituted by the swinging and driving mechanism (graphic display abbreviation) connected with the motor 46 (refer to drawing 4) for cutting so that a vertical swing is possible, and after the movable blade 35 has estranged from the stationary knife 32, it is held at the usual state.

[0019]And the printing tape 19 printed by the thermal head 15, Since it has extended out of the body frame 2 through between the stationary knife 32 and the movable blades 35 from tape cassette CS, By the motor 46 for cutting driven with the disconnect signal, the vertical swing of the rear end part of the control lever 34 is carried out via a swinging and driving mechanism, the movable blade 35 approaches the stationary knife 32, and the printing tape 19 is cut with these double-edged swords 32 and 35.

[0020]By the way, as the printing tape 19 sent out from said tape cassette CS, Five kinds which shall be 6 mm, 9 mm, 12 mm, 18 mm, and 24 mm in tape width are prepared, and in order to detect any of these five kinds of tape width they are, the projected piece 20 which combined the existence of four projection nails is formed in the bottom wall part of these tape cassette CS. And the cassette sensor 42 (refer to drawing 4) which detects tape width from the combination of the projection nail of this projected piece 20 is attached to the body frame 2 which supports this tape cassette CS bottom. With namely, the combination of the projection nail as for which this cassette sensor 42 constitutes the projected piece 20. For example, when the cassette signal of "0100" is outputted when tape width is 24 mm, and tape width is 12 mm, while outputting the cassette signal of "1100", when not being equipped with tape cassette CS, the KAKASETTO signal of "0000" is outputted.

[0021]Next, the control system of the tape printer 1 is constituted as shown in the block diagram of drawing 4. In I/O interface 50 of the control device C. The keyboard 3, the cassette sensor 42, and the controller displays (LCDC) 23 that have Video RAM 24 for outputting an indicative data to the liquid crystal display (LCD) 22, The drive circuit 44 for the buzzer 43 for warning, the drive circuit 47 for driving the thermal head 15, the drive circuit 48 for driving the tape feeding motor 45, and the drive circuit 49 for driving the motor 46 for cutting are connected, respectively.

[0022]The control device C CPU52, It comprises I/O interface 50 connected to this CPU52 via the buses 51, such as a data bus, CG(character generator) ROM53 for a display, CG(character generator) ROM54 for printing, ROM55, and RAM60. In CGROM(it is equivalent to font memory means)53 for a display. About each of many characters, such as an alphabetical letter and a sign, The dot pattern data for a display makes each styles of handwriting (Mincho a Gothic system style of handwriting, a system style of handwriting, etc.) of every correspond to six kinds (7, 10, 16, 21, 32, 32BIG dot) of displayed character sizes, and coded data, and is stored in it. Here, the displayed character size of 32BIG dot is a displayed character size which can be displayed more greatly than 32-dot character size at the time of the character string which is not protruded into the baseline bottom like the capital letter of the alphabet.

[0023]In CGROM54 for printing, about each of many characters, such as an alphabetical letter and a sign, The dot pattern data for printing is seven kinds (six points : 16 dots) per style of handwriting. It is made to correspond to a part for the printed character size of ten points : 24 dots, 13 points : 32 dots, 19 points : 48 dots, 26 points : 64 dots, 38 points : 96 dots, and a 44 point:96BIG dot, and coded data, and is stored. Here, the printed character size of 96BIG dot is the character size which can be printed more greatly than 96-dot character size at the time of the character string which is not protruded into the baseline bottom like the capital letter of the alphabet.

[0024]A display driving control program which makes it correspond to the coded data of

characters, such as a character, a number, a sign, etc. which were inputted into ROM55 from the keyboard 3, and controls the controller displays 23, In a character or a sign, an underline, an shaded character, a board, italics, The stripe character, outline (white character) which express a character by two or more horizontal lines, The text enhancement control program which performs various kinds of text enhancement, such as a shadow character, the printing driving control program which reads the data of the print data buffer 66 one by one, and drives the thermal head 15 and the tape feeding motor 45, the control program of the below-mentioned tape printing controlling peculiar to this application, etc. are stored. As shown in drawing 5, character size translation table TB1 the displayed character size when printing in the printed character size SZ and its size was made to correspond is stored in this ROM55.

[0025]Although not illustrated to ROM55, The printer graphic search table for every [the start address (index address) of CGROM54 for printing in which the dot pattern data of a series of characters or a sign about seven kinds of printed character sizes and each printed character size is stored was made to correspond] style of handwriting, The printer graphic index table to which this index address and the storage location head address in CGROM54 for printing of each character or a sign were made to correspond is stored. The printable character search table to which the start address (index address) of CGROM53 for a display in which the dot pattern data of a series of characters or a sign about six kinds of displayed character sizes and each displayed character size is stored was made to correspond although not illustrated to ROM55, The printable character index table to which this index address and the storage location head address in CGROM53 for a display of each character or a sign were made to correspond is stored.

[0026]The document data inputted from the keyboard 3 is stored in the text memory (it is equivalent to a data storage means) 61 of RAM60. Pointer value SP of a head address pointer who directs the start address of the text memory 61 in the parameter memory 62, Pointer value EP of the end address pointer which directs the end address, and data counted value DC, data MD of a text enhancement number and the data of the printed character size SZ are stored. The called-for data of a displayed character size is stored in the printable character size memory 63. The display position information in the display data buffer 65 of each character or a sign to display is stored in the locating position information memory 64. The inputted dot pattern data for a display of two or more characters or a sign compounds in the display data buffer 65, and it is stored in it, and the dot pattern data for printing of two or more characters or a sign with which printing is presented compounds to the print data buffer 66, and it is stored in it as dot image data for printing. In addition, the work memory 67 is formed.

[0027]Next, the routine of the tape printing controlling performed with the control device C of the tape printer 1 is explained based on the flow chart of drawing 6 - drawing 9. Numerals Si in a figure (i= 10, 11, 12 ....) is each step. If a power supply is switched on by the power key on the keyboard 3, while this control will be started and clearing each memories 61-67 of RAM60 first, initialization processing which initializes print station PM is performed (S10). Next, it is stored in 2 bytes of the head of the text memory 61 by standard form information data, and on the display 22. While the print image display screen which displays an input character by the same print image as a printed state is displayed, the vertical line-like cursor K which has a size of the displayed character size corresponding to the printed character size of standard documentation information is displayed on this display screen (S11). For example, as shown in drawing 10, "44pt (point)" is stored in 2 bytes of the head of the text memory 61 as standard documentation information as the "Mincho style of handwriting" and the printed character size SZ as data MD of a text enhancement number, respectively as "0 (with no ornamentation)", and the style-of-handwriting number data FN.

[0028]Next, print image display processing which displays the character stored in the text memory 61 and a sign by a print image is performed (S12). About this print image display processing, it will mention later on account of explanation. And when a formatting key is operated, (S13 and S14:Yes), and form information setting processing control are performed (S17), and it shifts to S13 through S12. Since the contents of formatting, such as the class name and printed character size of text enhancement, and a style-of-handwriting name, are put in

block and the formatting screen which can be set up is displayed on the display 22 in this form information setting processing control, If a cursor control key is operated, and an execution key is operated after moving cursor to a setting-out item "class name of text enhancement", a "printed character size name", and a "style-of-handwriting name" and inputting the numerical keypad corresponding to a desired setting detail, The form information containing the data of text enhancement number MD set up numerically or the printed character size SZ is stored in the text memory 61 as change form information.

[0029]here -- as the kind and its setting-out number of text enhancement -- 0:ornamentation nothing, 1:underline, 2:shaded character, and 3: -- a board, 4:italics, 5:stripe, 6:outline (white character), and 7:shadow character -- setting out of ... is attained. Setting out of 1:6pt, 2:10pt, 3:13pt, 4:19pt, 5:26pt, 6:38pt, and 7:44pt is attained as a printed character size and its setting-out number. For example, when only text enhancement number MD is changed into "5 (stripe)" by the time it inputs document data as shown in drawing 10, change form information including this changed setup information is stored at 2 bytes after said standard documentation information in the text memory 61.

[0030]next -- the time (S13: --) of keys which can be printed, such as an alphabetical-letter key, a symbol key, and a numerical keypad, being operated [Yes and] S14: The document data storing process stored in the text memory 61 by using the coded data of No, S15:Yes, and the operated key that can be printed as document data is performed (S18), and print image display-processing control is performed (S12). Next, this print image display-processing control is explained based on drawing 7. At this time, as shown in drawing 10, the code of standard documentation information, change form information, and a character string "HHH" shall be stored in the text memory 61 one by one.

[0031]If this control is started, about each of the character and sign which sequential retrieval of the data in the text memory 61 is carried out from a start address, and it displays based on form information, a character code, or a line feed code first, The locating position information for developing the dot pattern data for a display to the display data buffer 65 is searched for, and the locating position information is stored in the locating position information memory 64 (S30). Locating position information searches for the character arrangement position at the time of printing from form information, a character code, a line feed code, and the dot pattern data for printing, and is searched for by tripling 1/of the coordinate value and considering it as the locating position for a display, for example.

[0032]Next, initialization processing which initializes the parameter information about the printing job in the parameter memory 62 is performed (S31). Namely, the start address of the text memory 61 is set to head address pointer value SP in the parameter memory 62 (refer to drawing 10), The next address (end address+2) of the end address of the text memory 61 is set to end address pointer value EP (refer to drawing 10), The initial value "0" is set as data counted value DC, and "0 (with no ornamentation)" is set as text enhancement number MD, and also "44pt" is set as the printed character size SZ.

[0033]Next, since data and the character code of form information are 2-byte composition, respectively, to a start address. The data of the search address adding a part for the address which doubled data counted value DC is read (S32), and when the data is data of form information, (S33:Yes) and form information change processing control (refer to drawing 8) are performed (S35). If this control is started, the printed character size data YSZ first stored in that form information will be read (S42), When the printed character size SZ and its read in printed character size YSZ in the parameter memory 62 differ from each other, it is changed into the read in printed character size YSZ as the printed character size SZ of (S43:No) and the parameter memory 62 (S44). When the printed character size SZ and its read in printed character size YSZ are equal, it shifts to (S43:Yes) and S45.

[0034]Next, the text enhancement number data YMD stored in the form information is read (S45), When text enhancement number MD and its read in text enhancement number data YMD in the parameter memory 62 differ from each other, it is changed into the read in text enhancement number YMD as (S46:No) and text enhancement number MD of the parameter memory 62 (S47). When text enhancement number MD and its read in text enhancement number

YMD are equal, it shifts to (S46:Yes) and S48. Next, when it is searched similarly and changed also about the form information of others, such as a style of handwriting, that changed data of a form updates, is stored (S48), ends this control, and carries out a return to S37 of print image display-processing control.
[0035]Next, in print image display-processing control, it **********s one data counted value DC (S37), The search address which added a part for the address which doubled data counted value DC to head address pointer value (start address) SP, and the address directed by end address pointer value EP do not agree, When the character with which a display is presented exists in the text memory 61, (S38:No) and S32 or subsequent ones are performed repeatedly. And when it is a character code which can print the data of a search address, image generation processing control for a (S33:No, S34:Yes) display (refer to drawing 9) is performed (S36).
[0036]If this control is started, based on the data in the parameter memory 62, and the data of character size translation table TB1, first, The displayed character size corresponding to the printed character size SZ is read (S50), Based on the printable character search table about the style of handwriting set to this displayed character size, The index address of CGROM53 for a display in which the dot pattern data of a series of characters of the displayed character size or a sign is stored is read (S51), Based on the index address, printable character index table, and character code, The storage location head address of the character code about the set-up style of handwriting in CGROM53 for a display, That is, a font memory address is read (S52), and the dot pattern data for a display stored in the font memory address is read from CGROM53 for a display, and is once stored in the work memory 67 (S53).
[0037]When text enhancement number MD performs not "0" but text enhancement processing, next, (S54:No), Based on the kind of text enhancement, a displayed character size, a style of handwriting, and predetermined distinction logic, It is distinguished whether the character which performed text enhancement processing can display correctly on the display 22 (S55), When the character which performed text enhancement processing can be right and can display as a result of the distinction propriety, (S56:Yes), Text enhancement processing of the ornamentation kind directed by text enhancement number MD about the character using the dot pattern data for a display of the set-up style of handwriting stored in the work memory 67 is performed, This ornamentation dot pattern data for a display by which text enhancement processing was carried out is updated and stored in the work memory 67 (S57), and shifts to S59. When text enhancement number MD does not perform text enhancement processing by "0", it shifts to (S54:Yes) and S59.
[0038]However, when the character which performed text enhancement processing can be right and cannot display as a result of distinction propriety, When the character changes and is displayed, that is, (S56:No), It is changed and set as a Gothic style of handwriting as a style of handwriting for a display (S58), and text enhancement processing of the ornamentation kind directed by text enhancement number MD using the changed dot pattern data for a display of a Gothic style of handwriting is performed, This ornamentation dot pattern data for a display by which text enhancement processing was carried out is updated and stored in the work memory 67 (S57), and shifts to S59. And the dot pattern data for a display stored in the work memory 67, It is stored in the storing position of the display data buffer 65 directed by the locating position data of that character stored in the locating position information memory 64 as dot image data for a display (S59), this control is ended, and a return is carried out to S37 of print image display-processing control.
[0039]When the predetermined distinction logic mentioned above is explained here, a text enhancement kind is "stripe ornamentation", When the printed character size SZ is "26 or less pt" and also a style of handwriting is the "Mincho style of handwriting", In the dot pattern data for a display of the printed character size SZ a displayed character size becomes small at 21 or less dot sizes, and concerning the Mincho style of handwriting of a character, It is eclipse ****** with logic so that it may distinguish if a character cannot change and it cannot display correctly since lateral 1-dot line data may be eliminated by stripe ornamentation.
[0040]Next, in print image display-processing control to a start address after performing S37. When the search address adding a part for the address which doubled data counted value DC,

and the address directed by end address pointer value EP agree, (S38:Yes), The dot image data for a display stored in the display data buffer 65 by developing is outputted to Video RAM 24, is displayed on the display 22 (S39), ends this control, and carries out a return to S13 of tape printing controlling.
[0041]For example, when the form information and the character code string "HHH" which are shown in drawing 10 are stored in the text memory 61. Since the kind of text enhancement is set as a "stripe", and "44pt" is set up as the printed character size SZ and also the style of handwriting is set as the "Mincho style of handwriting", Since it can display correctly about these character strings "HHH" with the distinction logic mentioned above, as it is shown in drawing 11, about these character strings "HHH", it is the character size of 44 points of a style of handwriting next morning, and text enhancement of a "stripe" is performed and it is correctly displayed on the display 22.
[0042]On the other hand, when the form information and the character code string "HHH" which are shown in drawing 12 are stored in the text memory 61, Since the kind of text enhancement is set as a "stripe", and "26pt" is set up as the printed character size SZ and also the style of handwriting is set as the "Mincho style of handwriting", As it changes into a "Gothic style of handwriting" as a style of handwriting by the distinction logic mentioned above since it cannot display correctly about these character strings "HHH", and it is set up and it is shown in drawing 13, About these character strings "HHH", it is the character size of 26 points of a Gothic style of handwriting, and text enhancement of a "stripe" is performed and a display becomes it is right and possible at the display 22.
[0043]Next, in tape printing controlling, when a print key is operated, (S13:Yes, S14-S15:No, S16:Yes), and printing job control are performed (S19), and it returns to S12. Since this printing job control is the same as the usual printing job, if it explains briefly, Form information and a character code are read from the text memory 61 one by one, and based on a printer graphic search table and a printer graphic index table, The dot pattern data for printing in CGROM54 for printing of that character code is read, it develops to the print data buffer 66, and synthetic storing is carried out, and the dot image data for printing of this print data buffer 66 is outputted to print station PM, and is printed by the printing tape 19.
[0044]When the form information and the character code string "HHH" which are shown in drawing 12 are stored in the text memory 61 at this time, As shown in drawing 14, these character code strings "HHH" are the printed character sizes of 26pt of a style of handwriting next morning which was set up, and moreover text enhancement of a stripe is performed and they are correctly printed by the printing tape 19. By the way, when keys other than a formatting key, the key which can be printed, and a print key are operated, processing corresponding to (S13:Yes, S14-S16:No), and its operated key is performed (S20), and it returns to S12.
[0045]As explained above, when creating the ornamentation dot pattern data for a display which performed set-up text enhancement about the dot pattern data for a display of the style of handwriting in which the character was set up, Based on the predetermined distinction logic beforehand set to the displayed character size and the style of handwriting, perform text enhancement and about the character which it can be right and can be displayed on a display. While creating the ornamentation dot pattern data for a display which performed text enhancement to the dot pattern data for a display of the style of handwriting in which the character was set up, The printed character size of 26 or less pt is set to the style of handwriting of a system next morning, and it is set up by stripe ornamentation, and about the right character which cannot be displayed. Since the ornamentation dot image data for a display which performed the stripe ornamentation to the dot pattern data for a display of the right Gothic style of handwriting which can be displayed is created, When displaying an ornamentation character by a print image, the character which the style of handwriting of a system and stripe ornamentation are set up next morning, and cannot be displayed correctly can also be correctly displayed by stripe ornamentation of the style of handwriting of a Gothic system, and fullness-ization of the image display function about an ornamentation character can be attained.
[0046]When the correspondence relation between each means indicated to the claim and the composition in the above-mentioned example is explained here, are image generation processing

control for a display, especially the things equivalent to a display propriety discriminating means are S54-S55.
Are image generation processing control for a display, especially the things equivalent to a style-of-handwriting change commanding means are S56:Yes and S58.

[0047]The distinction logic which distinguishes the display propriety of the ornamentation character mentioned above is only what showed an example, and can change a distinction standard suitably based on the size of the display screen of the display 22, the composition dot number of the dot pattern data for a display, etc. It is also possible to constitute from a printed character size of 26 or less points about the character distinguished by stripe ornamentation when it could not display correctly, with a style of handwriting, next morning so that it may change into the Mincho style of handwriting of a Gothic system. It may be made to ask for a printed character size by an operation from the number of lines of the document inputted as the tape width of the printing tape 19. Based on the existing art or art obvious to a person skilled in the art, various change can be added within the limits of the technical idea of this invention about control of said example. It has a keyboard, a display, and a printer and, of course, this invention can be applied to various document processing devices, such as a word processor in which text enhancement processing is possible.

[Translation done.]

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2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]It is a functional block diagram showing the composition of claim 1.
[Drawing 2]It is a perspective view of a tape printer.
[Drawing 3]It is an outline top view of the print station equipped with a tape cassette.
[Drawing 4]It is a block diagram of the control system of a tape printer.
[Drawing 5]It is a chart explaining the setting detail of a character size translation table.
[Drawing 6]It is an outline flowchart of the routine of tape printing controlling.
[Drawing 7]It is an outline flowchart of the routine of print image display-processing control.
[Drawing 8]It is an outline flowchart of the routine of form information change processing control.

[Drawing 9]It is an outline flowchart of the routine of the image generation processing control for a display.
[Drawing 10]It is the explanatory view of a text memory in which form information and a string code were stored.
[Drawing 11]It is a figure showing the display example of the ornamentation character string by which stripe ornamentation was carried out with the style of handwriting next morning.
[Drawing 12]It is the drawing 10 equivalent figure where the changed form information and a string code were stored.
[Drawing 13]It is a figure showing the display example of the ornamentation character string by which stripe ornamentation was carried out with the Gothic style of handwriting.
[Drawing 14]It is a figure showing the example of printing of the ornamentation character string by which stripe ornamentation was carried out with the style of handwriting next morning.
[Drawing 15]It is a figure in which starting conventional technology and showing the display example of a character "H" next morning.
[Drawing 16]It is the figure which was applied to conventional technology and displayed the character "H" next morning which carried out stripe ornamentation.
[Description of Notations]
1 Tape printer
3 Keyboard
22 Liquid crystal display
52 CPU
53 CGROM for a display
55 ROM
60 RAM
61 Text memory
65 Display data buffer
C Control device

[Translation done.]

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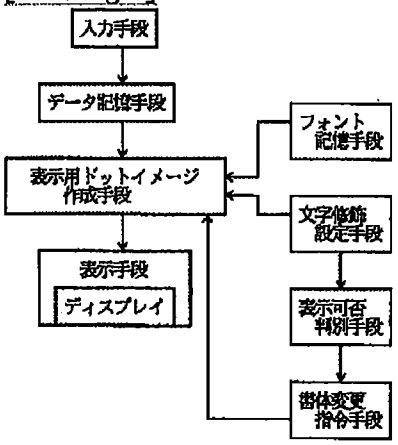
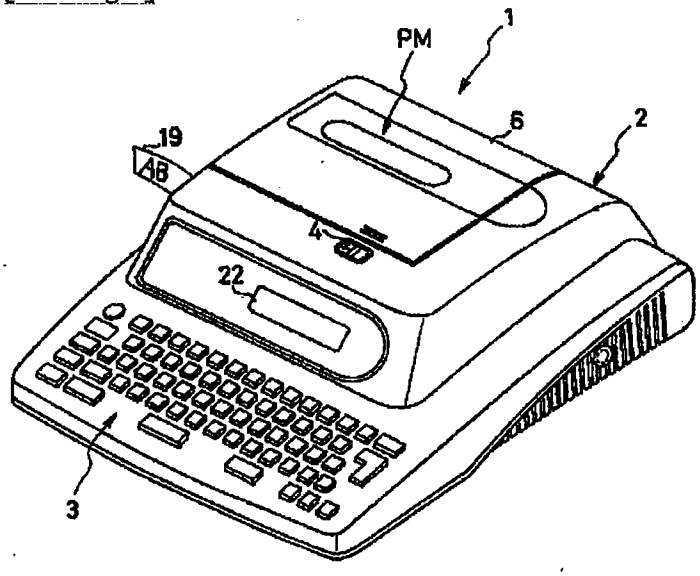
3.In the drawings, any words are not translated.

DRAWINGS

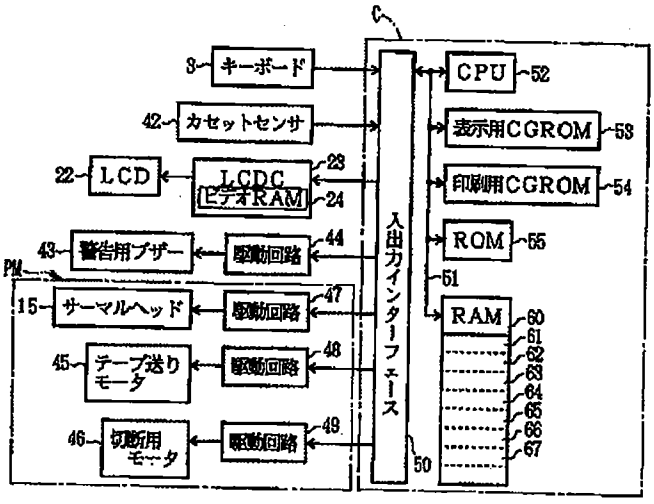
[Drawing 1]



[Drawing 2]



[Drawing 4]

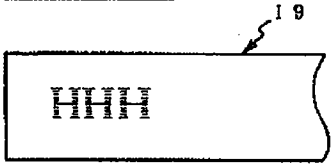


[Drawing 5]

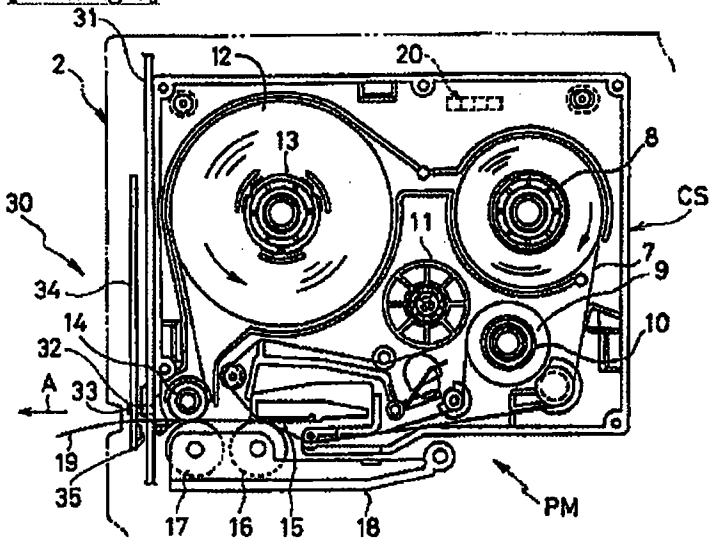
TB1

印刷文字サイズ (pt)	表示文字サイズ (ドット)
6	7
10	7
13	10
19	16
26	21
38	32
44 (BIG)	32 (BIG)

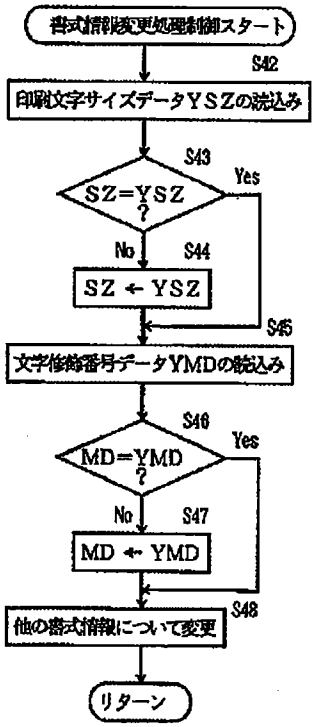
[Drawing 14]



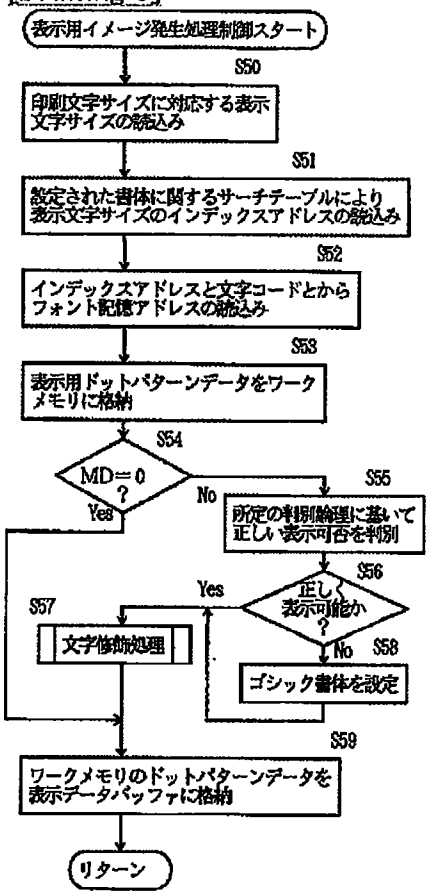
[Drawing 3]



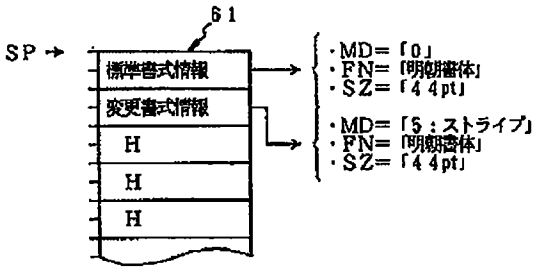
[Drawing 8]



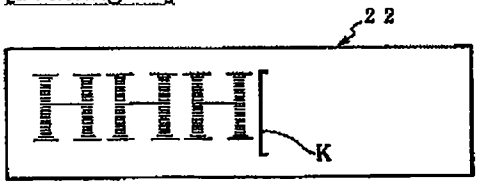
[Drawing 9]



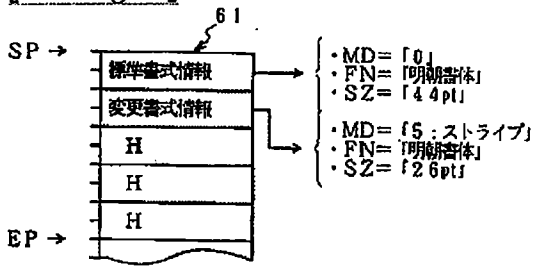
[Drawing 10]



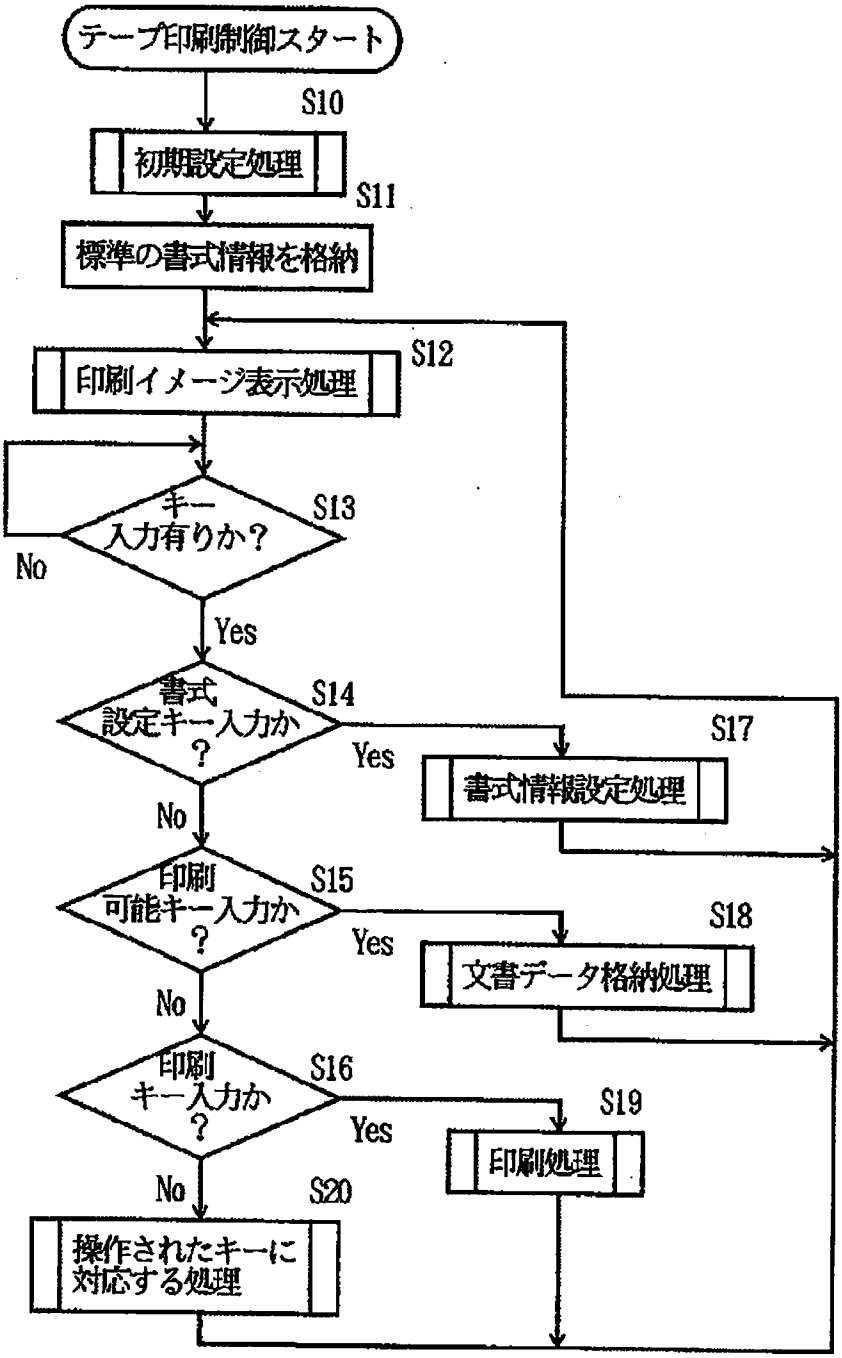
[Drawing 11]



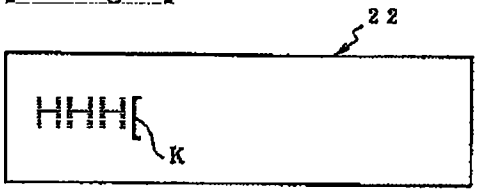
[Drawing 12]



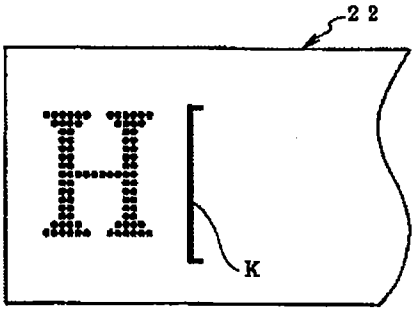
[Drawing 6]



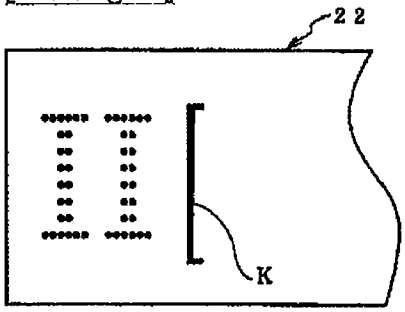
[Drawing 13]



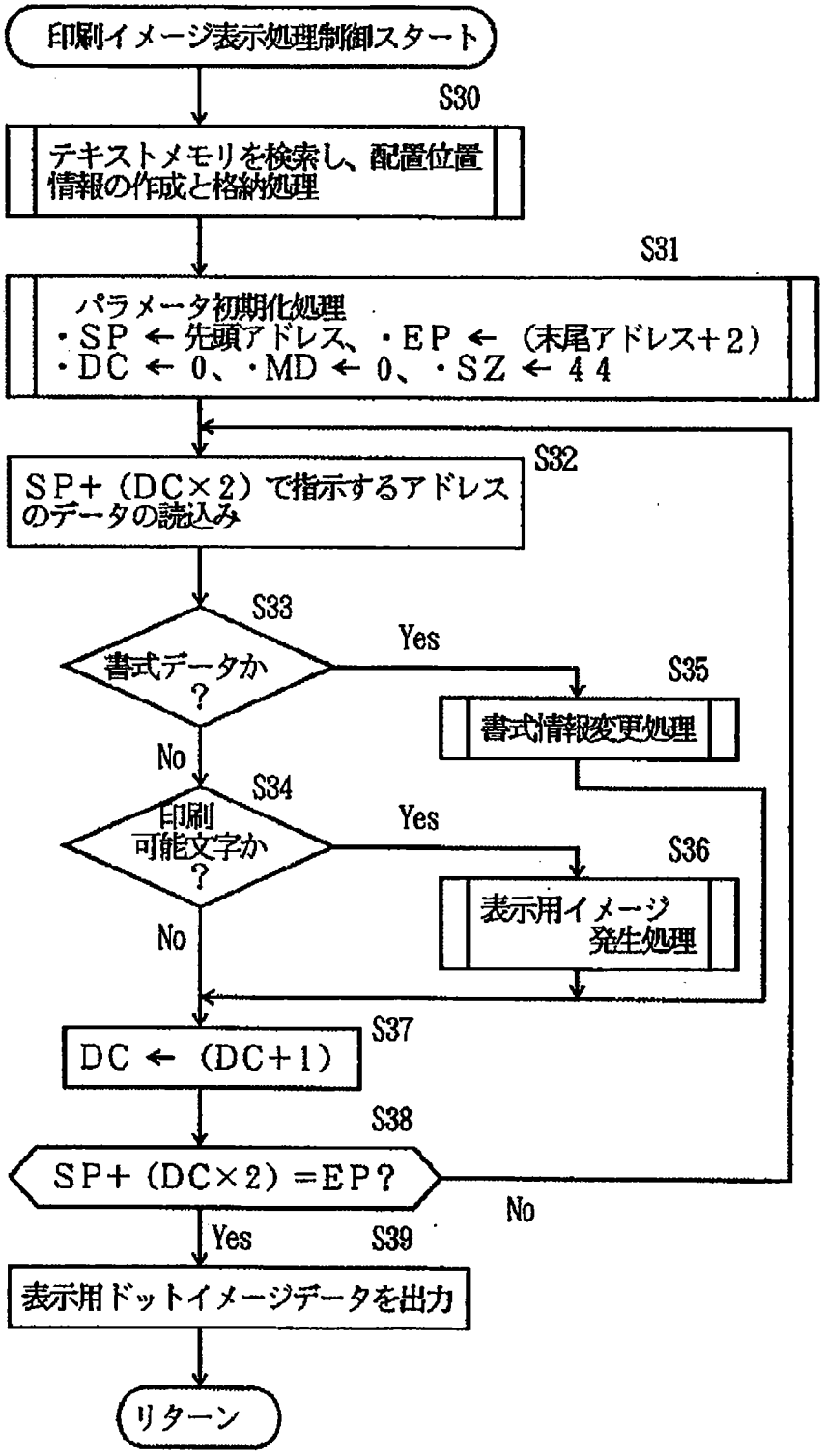
[Drawing 15]



[Drawing 16]



[Drawing 7]



[Translation done.]